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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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LAKE AND CANAL TRAFFIC.

The harbor commissioners of Montreal are considering a proposition laid before them last week by the "Wolvin syndicate" for the development of the commerce of the St. Lawrence system of canals and the diverting to this route to the seaboard of a considerable amount of the export freight which goes east by way of the great lakes. A delegation composed of A. B. Wolvin, of Duluth; W. W. Brown, of Chicago; J. H. Hoyt, James C. Wallace, and Robert Wallace, of Cleveland, visited Montreal last Thursday on the invitation of the harbor commission and remained in consultation until Saturday evening.

The plans of the syndicate were taken up in all particulars, and the Canadians were told exactly the concessions which were wanted by the visitors before they undertook the development of their plans. It is proposed by the syndicate to build grain elevators and freight transfer houses at Port Colborne, where deep draft lake navigation meets the fourteen foot limit of the Canadian canals, and also at Montreal, where the canal system connects with ocean going ships. The connecting link is to be a fleet of canal steamers, built with a view to carrying the greatest amount of cargo that can be floated through the locks and at the same time seaworthy enough to sail the waters of Lake Ontario at any time during the season of navigation. The capacity of the boats would be about 70,000 bushels of corn, and the cost of ten of them, the proposed fleet, is set at \$1,500,000.

The location of the elevators and freight transfer houses at Montreal would be in a most advantageous position on what is known as Windmill point. This point has the last locks of the Lachine canal and a large basin for mooring boats on one side, and on the other side, a short distance away from the canal, is a dock for ocean steamers, with thirty-two feet of water. Grain could be elevated from the canal steamer and discharged into the hold of an ocean steamer from the same house with a minimum of cost and freight of other kinds could be handled in the same way. It is planned to make the steamers of the fleet as great cargo carriers as is possible for their size, and at the same time retain structural strength so that they will be given a good rating by the insurance classification societies. Elevators and freight houses are to be examples of the most modern and complete structures in the world.

"There is a great deal of freight which could be diverted to this route on its way to the seaboard," said W. L. Brown. "Grain would be a large item, but pig iron, steel billets,

manufactured steel and wire could be sent by this way and many other things. There is the problem of a lack of west-bound freight, due to our exports being greater than imports, but there is much of the west-bound freight to be cared for. The men who went to Montreal last week have gone into the scheme entirely as a business matter. Some of them can get the freight for the St. Lawrence River boats, others have the ability to care for the details of its transportation, and I have gone into it as a shipbuilder to build the boats. We first convinced the Canadians that we could carry out anything we would undertake, and then we took up the terms of the concession we want. We went into our plans in detail, and they understand it in every particular. The matter is now ready for a trade. We have made the proposition, and await their answer. All the money necessary for the work has been pledged."

THE MARINE VALUE OF WEATHEROLOGY.

A Liverpool shipowner in a letter to the Journal of Commerce has the following to say relative to the aid which shipmasters may receive through a study of the science of meteorology:

"The news of the collision in the Irish sea prompts me to write to you on the subject of 'Better protection of life at sea.' I suppose there is nothing so dangerous to a ship as a fog, because it may lead almost to any kind of danger, such as collision or running ashore. Now the question arises, how can such dangers be best guarded against? My argument runs as follows: There is altogether too little heed given to weather conditions, which sometimes spell fatal disaster.

"Now, I suggest that the underwriters give the matter serious consideration, and if necessary refuse or increase the insurance on ships which go to sea without the master having first availed himself of all possible news concerning the weather. As you know, sir, I am a subscriber to the weather charts which are published daily from your office, and eminently accurate and useful they have proved themselves. These weather charts should be studied, and if a man ashore can forecast fog from these charts, it should be made imperative that no man gets command of a ship who does not have a most thorough knowledge of meteorology. The examinations passed by sea captains today are crude in the extreme, and therefore the need is greater for constant study of weather charts; and hence, with facilities at one's doors for a study of the weather, there should be no excuse in not availing ourselves of them. Since the introduction of your charts I have not sent a ship of mine to sea without the very latest copy, and I am glad to know that many of the leading steamship companies have likewise availed themselves of the opportunity to give all the latest weather reports and forecasts to the masters who are responsible for the safe navigation of their ships."

TO PROMOTE SHIPBUILDING IN CANADA.

The policy of the government of Nova Scotia, with respect to the promotion of the steel shipbuilding industry in that Province, is announced by Premier Murray in the following terms: "I am prepared to state on behalf of the government that we will be willing to make an appropriation of \$100,000, payable to the first company establishing a shipyard in the Province, equipped with the most approved mechanical appliances, upon specifications to be approved by the Governor-in-council, capable of building at least five steamers a year, of the capacity of 5,000 tons each; and, in addition to such an equipped shipyard, having sufficient working capital for efficiently carrying on the business, the terms upon which the government bonus shall become payable to be settled by an agreement, with any company, furnishing evidences of its bona fide and financial ability to successfully carry out what is contemplated.

SALVAGE AWARDS TO CREW.

In apportioning the amount awarded to the steamer Minneapolis, of the Atlantic Transport Line, for salvage services rendered the four-masted barque Comet, which was a sum of \$40,000, or £8,250, on the application of some members of the crew, Mr. Justice Barnes (British Courts) pointed out that the captain of a valuable salving steamer has a great responsibility, and he compensated Captain Layland for discharging his part of the services by a grant of £500 (\$2,500). Following out a just policy of awarding those who most merited it, the learned judge set aside £150 for the chief and second officers and four men who worked the boat engaged in transferring the crew of the disabled ship to their own vessel; £300 was likewise distributed amongst those who undertook the duty of cutting away the masts of the Comet, and £25 allotted to the men who remained in the boat while that was being accomplished. Another £75 was given to the third officer and men accompanying him for making fast the tow ropes.

In disposing of the remaining £1,025 among the members of the crew, numbering 147, Mr. Justice Barnes referred to the fact that there were some 40 or 50 persons not engaged in navigating or working the ship, and while he did not think it wise to ignore them altogether in the apportionment, it was sufficient to allow them one-third of their rating. Each horseman on board to be also rated one-third of an A. B. In acknowledging all the members of the crew, although some did not earn a pittance through extra work entailed, it was pointed out that they had their stations and could be called upon to fill them when necessary. It had long been a nice point that stewards and others who take no risk and do no extra work participate in salvage awards, although the work is performed by the navigating officers and deck hands. Discretion has not until comparatively lately been exercised in this important question of apportionment of salvage awards, and though it may not yet be all that some may desire, the principle of justice is more than recognized in this case.

AN ECHO FROM THE CHICAGO REGATTA.

Aemilius Jarvis, skipper of the Canadian yacht Invader, which walked away with the international yachting trophy last week, speaks well of Chicago yachtsmen. "Half of them," he explained, "are Canadians. They met the train 25 miles from Chicago, and went with us. We were put up at the Chicago Athletic Club—one of the finest in the world—and, though we passed a lot of time at the Chicago Yacht Club, we really lived at the Athletic Club. You couldn't express a wish for anything that wasn't brought you at once.

"The Chicago yachtsmen were perfectly fair. At the time of the foul, there wasn't a murmur, except from the man who did it. It was only a bluff. He knew his mistake, and wanted to let himself down easy. He should have gone round our stern or in our lee, and taken his blanketing. It's the first rule we learn. You see, we measured the distance on the port tack, and came round on the starboard. He came round on the port, and we came together 200 feet to weather of the line. He had plenty of room to get out of the road."

The English dry dock at Hong-Kong, China, is reaping a rich harvest in hauling out and repairing Uncle Sam's Asiatic fleet; in fact Admiral Remey has become alarmed at the size of the bills and has notified the navy department and urged that a dry dock be provided near Manila without delay.



CLEVELAND.

Special Correspondence to The Marine Record.

Loading 5,000 tons of coal in 10 hours is the Lorain record to date.

The G. A. R. encampment week means much extra business for the regular passenger lines and bookings are already being made ahead.

The steel steamer Lakeside, built by the Craig Ship Building Co., Toledo, and hailing from that port is 450 gross and 306 net tons. Official number, 141,738.

The Oscar T. Flint has been damaged about half a dozen times while lying at the Haskell dock in Ashtabula. She is hoodooed after entering the iron ore receiving port.

Mr. Paul H. Cheney, of the firm of P. H. Cheney & Sons, Ashtabula, died last week aged 65 years. Denman, Thomas and Robert Cheney are sons of the late R. H. Cheney.

The steel cargo steamer George W. Peavey, 4,997 gross and 3,861 net tons, built at and hailing from Cleveland, O., has been granted an official number by the Bureau of Navigation, Treasury Department.

Canada takes 10,000 tons of steel rails this week for the Canadian Pacific and the Algoma Central and Hudson Bay Ry. Co. These shipments are being made from Conneaut in Canadian owned bottoms.

Capt. W. W. Brown and Mr. H. S. Wilkinson, of Syracuse, of the Globe Navigation Co, owners of the steamers Tampico, Eureka and Meteor, left for San Francisco last week to look after the boats on their arrival.

It is a pleasure to see Mr. Fitch, formerly secretary and treasurer of the Cleveland Ship Building Co., around again. Mr. Fitch has been almost incapacitated from duty for the past year or two owing to getting jammed between street cars.

The new steamer, George W. Peavey, built at the Lorain yards of the American Ship Building Co., for the Peavey syndicate, is now on her maiden trip to Lake Superior. She is in command of Capt. J. W. Norcross, formerly of the ocean-going steamer Paraguay.

The promoters of the new dredging trust on the lakes have secured an option on 170 shares of the Lorain Dredging Co.'s property which are the holdings of the Stang estate. It is said this will give the new company control of all but eighty shares of the stock.

Cleveland has received her first cargo of Michipicoten ore and paid the 40 cents per ton duty on it. W. A. Hanna & Co. are the agents. The ore is a brown hematite of the Bessemer quality and large receipts are looked for when the Canadian mines are developed.

Mr. Robert Wallace, than whom no one is better acquainted with the lake trade, admits that it is now beyond the power of prophecy to limit the development of lake commerce even to within the immediate future. The present volume he hails as being miraculous.

There is a great advantage in owners bringing up their own masters. Capt. A. C. Stewart has served in the employ of Mitchell & Co. since he was a boy and he has now been promoted from mate of the Walter Scranton to master of the steamer Robert L. Fryer. Capt. Stewart is an energetic, skillful and level headed young man, aged 24 years.

The British built steamer, Donnacona, sister ship to the Strathcona, loaded coal here for Fort William; her previous cargo was iron ore from Cuba to Newport News, Va. With the arrival of the Midland Queen, this week, she makes the second foreign built steamer to cross the Atlantic and enter the Canadian lake trade. This is an indication of what the improved system of St. Lawrence canals may do in the near future.

The new steamer Lakeside, built at the yards of the Craig Ship Building Co., Toledo, for the Sandusky & Peninsula Steamboat Co., will be delivered to her owners next week. She will immediately go upon the Sandusky, Marblehead, Lakeside and Catawba Island route, taking the place of the American Eagle. The Eagle, which will be turned over to the Craigs in part payment for the new boat, is a good little

ice crusher and for years has been on the winter route between Sandusky and Put-in-Bay.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, for the week ending August 21st: Prevailing wind directions during the week, south-east; highest velocity 27 miles, on the 19th. Mean temperature for the week, 74; highest temperature 85, on August 21; lowest 67, on August 16th; sunrise and sunset data computed for local time at Cleveland, August 23, sun rises, 5:16; sets, 6:49; August 26th, sun rises 5:19; sets 6:44; August 29th, sun rises 5:22; sets, 6:40.

Samuel H. Crowl, Esq., has been instrumental in incorporating the Eureka Smoke Consuming Co. this week. The device claimed by the company will save fuel and prevent smoke, and can be put on any sized boiler. Henry C. Talbot is the inventor, and it is proposed by the company to place it on boats on the lakes and the coast. Capt. Geo. P. McKay, treasurer of the Lake Carriers' Association, and Judge S. S. Ford are interested in the appliance, and claim that it will do all that is required of it.

Major Dan C. Kingman, Corps of Engineers, U. S. A., would like to see the river kept in a better condition and live water moving through it from time to time. When other matters now demanding his attention have been cared for sufficiently to permit of a study of the situation Major Kingman may make some recommendations regarding the old channel. It is of course known that this matter rests in the hands of the municipality, but the views of so experienced an engineer as Major Kingman would be given the closest attention by the city officers.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

There has been about 8,000,000 bushels of wheat chartered 60 days ahead to Buffalo. The freight varies from 3 cents to 3½ cents.

The crews of vessels arriving here say that the cold weather is already being felt on Lake Superior and that the nights are colder than usual at this time of the year.

Extensive repairs have been made on the Northern Queen at West Superior on account of the collision in which she sunk the whaleback barge Sagamore. All of the bow plates of the Northern Queen were damaged.

The tug Ida Barrett recently sunk at the dock in West Duluth of the Mitchell & McClure Lumber Co. and when raised it was found that the sinking resulted from neglect to shut off the stopcock of the siphon.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, Duluth, for the week ending August 20: Prevailing wind directions during the week, N. E.; highest velocity 29 miles per hour from N. W. on the 19th. Mean temperature for the week, 71°; highest temperature, 87° on 16th; lowest, 60° on the 15th.

Ashland, Washburn and Bayfield disposed of an easy 20,000,000 feet of lumber within the past few days. Tonawanda, Cleveland and Chicago parties taking the bulk. The John O'Brien Lumber Co. and the Edward Hines Lumber Co. were large sellers at good prices. The indications are that lumber will be sent forward as briskly as the fleet can carry it.

St. Louis county, Minn., last year furnished more than one-third of the iron ore produced in the United States. Minnesota supplied more than one-third of the ore mined in the twenty-two ore producing states and territories in the United States. The grand total for 1900, according to John Birkinbine, the celebrated iron ore statistician, was 27,553,161 gross tons. Of this amount Minnesota, or to be more definite, St. Louis county, Minn., produced 9,834,399 tons.

Lumber is lumber these times; sometimes it is not so valuable. Prices remain very firm, with a tendency upward, especially in Norway. Some short lengths have sold at \$11.00 for 2x4s and 2x8s, and \$12.00 for 10-inch stuff. Six-inch strips, common grade, are selling at \$15.50, and 4-inch of the same grades at \$13.00 to \$13.50, one small lot going at the latter figure. Buyers are continually looking for stock, and so few lots now to look at that there is little choice in the matter of selection.

The American Ship Building Co. is contemplating vast improvements in the plant at West Superior. It will spend in the neighborhood of \$75,000 on repairs and new machinery. The machine shops will receive new machinery, and there will be a general lot of repair work all the way through the yards. The old drydock will receive extensive repairs. In addition to the Milwaukee steamer now on the stocks two others may be started soon. In fact every branch yard is now listed to its full capacity and the ways for 22 new vessels must be kept filled to complete present contracts.

DETROIT.

Special Correspondence to The Marine Record.

The new tug building here for Timothy Hurley will be named the Cadillac.

The Cramp Steel Co., Ltd., are advertising for bids for the construction of a dock and its approaches at Collingwood.

Fully a score of transfers of masters from one craft to another has been noted at the custom house within the past few weeks.

Whatever the outlook may be in the big steel strike, the Michigan iron ore mines are working full forces underground and heavy shipments are being rushed forward.

The second of the new submarine boats for the United States Navy was launched yesterday, at Elizabeth, N. J. The craft is but 63 feet 4 inches long. Her name is the Moccasin.

The Northern Navigation Co., of Ontario, has declared a half yearly dividend of 5 per cent., payable from August 15 at the office of the Secretary, Thomas Long, Esq., Collingwood, Ont.

The steamyacht George Stauber was run down by the cargo steamer Alex. McDougall opposite Fort Gratiot on Wednesday, no lives were lost. The accident is thought to have been caused by a misunderstanding in the interchange of signals.

Dennis Bros., of Detroit, have commenced suit in the circuit court at Port Huron to recover \$10,600 from Slyfield Bros. Several insurance companies have been garnisheed. The suit arose over the loss of the steamer White Star by fire last winter.

The Detroit & Cleveland Navigation Co. has announced that its day boat service, which is usually suspended after the 1st of September, will continue during the first half of September at least. This is done that the G. A. R. Cleveland and travel may receive proper attention.

The schooner Crete, in tow of the steamer Venezuela, went hard aground on the east bank of the Limekiln Crossing on Tuesday night. Capt. James Davidson, her owner, has wired that he will personally superintend lightering operations and expects to float her by Thursday.

Every possible effort is being made by the Lake Superior Power Co., Sault Ste. Marie, Ont., to complete the blast furnaces and steel making plant at that point. In the meantime rails and other metal supplies necessary for carrying on the several Clergue enterprises are being shipped from Ohio ports.

Capt. Washburn Maynard, U. S. N., secretary of the Light-House Board, left here with Commander J. C. Wilson, U. S. N., on the tender Marigold for an inspection of the lighthouses and aids to navigation in the eleventh district. This will embrace a trip through Lake Huron and Lake Superior up as far as Duluth, and take about three weeks. The Marigold had 125 tons of hard coal aboard for the fog signal stations on the south shore of Lake Superior.

Sailors here say that the crew of the Northwestern had every right to ask for their pay at Buffalo after making the Atlantic voyage, as they were not on lake articles and could not be held to work for salt water wages after the vessel had discharged cargo at a home port, be this as it may, the British steamers now trading for Canadian owners can't hold their crews at ocean or coast wages, nor should the Chicago line try to do so in the future unless they want to get their boats tied up by the Federation of Labor.

The Detroit divers at work recovering the pig iron cargo of the schooner William Hulme, sunk off Seul Choix Point, have had to be taken to Manistique for medical aid. The Hulme is sunk in 17 fathoms of water, and when working at that depth divers suffer from partial paralysis. Six hundred tons of the cargo have already been taken out of the schooner, and but little remains. The last hospital case is that of William Manning, and he is not expected to recover. His home is at this port and he has brothers living at Alpena.

As the result of a judgment for \$2,000, in a suit brought by Miss Christine McIntosh, of this city, against W. J. Brown, who has been operating the steamer Pittsburg on the run between Detroit, Buffalo, Georgian Bay and Toledo, the latter has been compelled to file a petition in bankruptcy in this city. Other debts were mentioned in the plea, but the principal one was the judgment. In the suit brought by Miss McIntosh against Brown for slander, she alleged that the latter made insulting remarks about her while she was a passenger on his boat last summer.

I noticed in the list of letters advertised in the RECORD last week as being at the marine postoffice here, there was

one for Capt. Joiner of the Sagamore. Needless to say the poor captain will never apply for it. The barge was lost through collision with a Northern line boat off Point Iroquois, July 29, and besides the captain, Ira Ives the steward went with her. The body of the steward was picked up last Thursday near where the schooner foundered. The former owners of the Sagamore, Messrs. Pickands, Mather & Co., Cleveland, very kindly telegraphed to ship the body to Sackett's Harbor, N. Y., where the late steward's widow resides, but it was decided that this would be impossible owing to the badly decomposed condition of the body, and the remains were interred in Riverside cemetery, Sault Ste. Marie.

BUFFALO.

Special Correspondence to The Marine Record.

Capt. Thomas Newman has taken charge of the ferry steamer Superior, vice Capt. Ed. Hewitt, resigned.

The steam yacht Zeta from New Orleans to Chicago, E. W. Deming, owner, is expected to arrive here this week.

Capt. Ralph T. Pringle is now in charge of the Annabel Wilson, vice Capt. Peter Johnson, transferred to the Bottsford.

The schooner A. A. Turner was libeled for sailors' wages just as she was leaving Tonawanda on Tuesday. The claim was paid and libel dismissed.

Capt. Joseph Corcoran has again taken charge of the Mahoning, relieving Capt. Martin, who had command during Capt. Corcoran's recent illness.

Continental Iron Works show specimens of welded steel plate work, Morrison suspension furnaces and Fox corrugated furnaces at the Pan American Exposition.

The Tonawanda's docks are jammed with lumber, though cargoes have slacked up a little this week. Charters are made ahead so as to keep the docks busy well on into the season.

Repairs to the boilers of the Northwest were completed on Monday and she got away late in the evening for Chicago. The boats have developed a great passenger trade on their present route.

The Rutland Transit Co. has been sued for \$20,000 by Thomas J. Drake because of injuries he is said to have received in falling into the hold of the steamer Frost last winter at Chicago.

The old timer Keweenaw, built in 1866 and now a lumber barge, is in dry dock for repairs necessary through being run into by the steamer New Orleans. She was formerly a side-wheel passenger boat.

The Northern Steamship Co. people say it is yet too early to state whether the Belleville type of boilers will be condemned and taken out of the North West and North Land, but they have given trouble enough anyway.

The steamer C. B. Lockwood, with ore for the Lehigh dock, Tift Farm, grounded while trying to reach her dock and will probably have to be lightered, though tugs were working on her early Wednesday morning.

This year's business is sharply disputing the claim that the Erie canal has outlived its usefulness. The tonnage moved in the week which ended August 14, was 23,822 tons greater than in the corresponding week last year.

The loss on the steel barge Sagamore, ore laden, sunk off Point Iroquois through collision with the Northern Queen, will exceed \$100,000, excluding any action for loss of life. She is in 12 fathoms and no steps will be taken to raise her.

There is a foul bottom opposite the entrance to Coit Slip and directly in the channel. The Western Transit liner Syracuse picked up a boulder there this week while bound out and has had to be placed in drydock for survey and repairs.

The libels in the Sagamore-Northern Queen collision case will be filed here, as will also the libel in the Harvard-Butman collision. Proctors Shaw, Waite, Cady and Oakes of Detroit represent the Northern Queen and the Butman, while the Sagamore and Harvard are represented by Proctors Hoyt, Dustin & Kelley of Cleveland.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, Buffalo, for the week ending August 17th: Prevailing wind directions for the week, N.-E. S. W.; highest velocity, 22' S. W. on August 15th; mean temperature for the week, 73°; highest temperature, 89° on 14th; lowest, 60° on 12th.

Lyman C. Smith, of Syracuse, N. Y., is to be president of the recently organized line of lake cargo boats with Capt. W. W. Brown, of Cleveland, as manager and H. W. Smith of Syracuse, treasurer. The following are the directors: L. C.

Smith, William Nottingham, Charles M. Warner, George B. Leonard, H. W. Smith, Horace S. Wilkinson, of Syracuse, W. W. Brown and J. B. Cowles, of Cleveland, O., and Dr. A. G. Brower, of Utica.

The latest addition to the elevator system of Buffalo is the new property of the Eastern Elevator Co. The plant consists of a working house fronting on the docks, behind which is a nest of sixty-eight steel bins, enclosed within a double row of large steel tanks. Each of the small bins is 15½ feet in diameter, and the total capacity of the sixty-eight is 1,000,000 bushels. The large tanks are built in two rows, the twenty-two having a capacity of 1,500,000 bushels, making the total capacity of the plant 2,500,000 bushels.

Lieut. J. H. Gibbons, U. S. N., has been detailed to take temporary charge of the local recruiting station in the Prudential building, during the convalescence of Lieutenant-Commander Bull. The office will now be open from 9 o'clock every morning till 4 o'clock in the afternoon. Lieut. Gibbons comes but recently from service in the vicinity of the Philippines. He was navigator of the Brooklyn, which has been in Eastern waters for the past two years. During the last week, Lieut. Gibbons has dispatched 10 men to the receiving ship Wabash at Boston. He says that recruits are coming in steadily.

At a meeting of the Canal Enlargement Committee of the Merchants' Exchange Alfred Haines, T. S. Fassett, W. A. Rogers, John Cunneen and George H. Raymond were appointed as a committee to confer with the canal improvement interests of Greater New York at New York with the view of deciding upon some plan for canal enlargement to be presented to the legislature this coming winter. An effort was made to have this conference held in Buffalo, but the New York canal men wrote that they could not spare the time necessary to come on here. The date for the conference has not been decided upon, but it will take place in the near future.

CHICAGO.

Special Correspondence to The Marine Record.

The fourth steamer building for the Peavey syndicate at South Chicago, will be named the F. B. Wells.

William J. Hackett, after several years' service ashore with the Edward Hines Lumber Co., will again enter the lake trade in the capacity of mate and pilot.

It is reported that the old steamer State of Michigan, of the Barry Line, and built in 1873 has been sold to Cleveland parties and will be sent there on the arrival of the Terry.

Now that the R. P. Fitzgerald is dry docked it is seen that her damages through striking at the Limekilns is much greater than was anticipated. She will be under repairs for a week.

The W. P. Ketcham has been bought by Samuel Neff of Milwaukee for \$54,000. She was built at West Bay City in 1893, is 946 tons gross and rates A1 with a valuation for insurance purposes of \$50,000.

The steamer F. T. Heffelfing will be launched at the yards of the Chicago Ship Building Company at 1 o'clock Saturday. The Heffelfing is the third of the fleet of four steel steamers building for F. H. Peavey and others.

The steamer W. H. Wolf picked up a boulder near Ballard's reef when bound to Milwaukee and carried it to her discharging port. This has been done by boats in the past and is an argument in favor of wooden bottoms. The Wolf will dry dock at South Chicago.

The talk in the air about Lake Michigan passenger lines combining is not considered of much weight, nor can it be, when A. W. Goodrich, president of the principal line has not been consulted in the matter, although, he is not averse towards a proper consolidation of interests.

The Alexander Nimick, coal laden, reached the S. C. Schenck coal dock at 35th street up the South branch, this is the highest point ever reached by a 300 foot boat 40 feet beam and dredging is being done for a clear 17 feet. The Schenck dock is fitted with good discharging facilities.

The Dundee-built Canadian steamer Midland Queen is due here this week with some through cargo from Manchester, England. Her dimensions are 225 feet in length, 42½ beam and 23.8 feet in depth, to carry 3,000 tons on a draft of 17½ feet, speed a fraction over 13 knots, or 15 miles per hour.

Coal shovellers at Racine asked 15 cents per ton for discharging; as 12 and 13 cents are the figures at other ports, men were ordered from Milwaukee to do the work at 60 cents an hour and the Racine Gaslight Co. had union ructions for a while. It is expected here that the men will ad-

just the differences between themselves before the end of the week.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, Chicago, for the week ending Aug. 21st. Prevailing wind directions for the week, N. E.; highest velocity, 32 miles north east, Aug. 18; mean temperature for the week, 72°; highest temperature, 87° on Aug. 14; lowest 66° on Aug. 20.

The Milwaukee life-saving crew are again at loggerheads with the keeper. This state of affairs should not be permitted at any station, as it reflects great discredit on the entire service. Prompt and effectual measures should be taken to stop this apparent carelessness. The service is large enough and costs enough to make efficient transfers.

The underwriters have fixed the insurance value of the steamer Terry, recently purchased by Miles Barry in New York for \$19,600, at \$75,000. They wanted to make it \$100,000, but after considerable persuasion, modified their views to \$75,000. Capt. Barry will have to pay a premium rate of 2½ per cent for the run from New York through the St. Lawrence gulf and river to Lake Ontario.

Capt. John Craig, of the Craig Ship Building Co., Toledo, has been circulating around here this week and it would be no surprise to learn that he has closed a contract for one or more steamers. It is thought that the Williams line's new steamer, which officials of the company say will surely be built this winter, may go to the Craig yard, inasmuch as they have demonstrated their ability to build fast and good passenger steamers.

The Graham & Morton steamer Puritan will leave Chicago for Buffalo August 31. The Puritan will lie at Buffalo two days at the centrally located docks of the Erie and Buffalo line, allowing passengers to use the craft as a hotel if they wish. The entire trip will take about a week, and the round trip rate is \$25, or \$15 one way. It is expected that the Puritan will make four round trips during September. The advance sale for the first trip has been satisfactory thus far.

F. W. Fellenz, traveling freight agent of the Pere Marquette Railway, stated recently at Manitowoc that owing to a rapid increase of business the company has opened negotiations for another big steel car ferry, to be ready for service next season. The last boat built, Pere Marquette 17, has just been placed in service, and the American Ship Building Co. would require to make a miraculous effort to give the Pere Marquette Ry. Co. another boat prior to 1903.

The steel cargo steamer Spokane has been taken off the Duluth-Port Huron route and will hereafter trade between Meaford on Georgian Bay and this port, carrying grain. The Grand Trunk Railway Co. has an elevator there of 700,000 bushels capacity, with a clean 20 feet of water leading up to it and clear of all outlying dangers. The run can be made between elevators in about 48 hours, and the Grand Trunk will do the rest to the seaboard. This is in direct competition with the already well-established Canada-Atlantic route.

The Barry Bros. are always on the alert where business is concerned. It appears that the steamer Terry bought at auction by Captain Miles Barry on a bid of \$19,500, has installed on board an ice plant which cost the government not less than \$25,000. This, it is said, was put in for the purpose of generating cold water for the ship, as she was intended for hospital service during the Spanish war, and it was expected her station would be in tropical climates, where such equipment would be essential for the treatment of wounded soldiers. Inasmuch as Lake Michigan steamers never require ice plants Capt. Barry will sell this one, and the figure obtained for it will no doubt render the Terry a remarkably cheap piece of first class vessel property. She is also supplied with numerous bath rooms, electric lighting plants hot and cold water and electric call bells. The Terry is comparatively a new boat. She was built in 1892 for the passenger and freight service between New York City and New Haven. She was then known as the Hartford. At the commencement of the Spanish-American war she was purchased by the government. Her dimensions are: Keel length 220 feet, length over all 240 feet, beam 40 feet, depth of hold at shoalest point 13 feet. Her draught is between 10 and 11 feet, it is said. She is a twin-screw steamer, with triple expansion engines and four boilers to supply steam. In point of speed she will rank with the fleetest steamers on Lake Michigan. She has, it is said, been run as high as twenty miles per hour, but her average running is at the rate of seventeen miles per hour. This is the average of the North West and North Land in their runs between Buffalo and Chicago.

SHIPS REGISTER AND CLASSIFICATION SOCIETIES.*

Although societies for the classification of vessels as at present constituted are of comparatively modern origin, it is safe to assume that marine insurance clubs of a local character existed in very early days. We read that the Romans, in A. D. 533, passed a law restricting the rate of usury to 6 per cent, but made a special exemption in favor of nautical insurance. The Italian republics in the Middle Ages regulated by law the depth beyond which vessels should not be loaded, and Shakespeare points out the necessity of insurance in the "Merchant of Venice," where Bassanio exclaims:

"Hath all his ventures failed?
From Tripolis, from Mexico, and England,
From Lisbon, Barbary, and India?
And not one vessel scape the dreadful touch,
Of merchant marring rocks?"

The earliest vessel of which we have any written record is the Ark. This vessel is stated to have been a three-decker, strongly built of gophir wood. The principal dimensions reduced to English measurement show that she was of about 130,000 cubic feet capacity, tonnage about 18,000 on 27 ft. draught. No means of propulsion were provided, and consequently she does not come within the scope of this paper, except as showing how very meagre is our information regarding the ships built in the early ages of the world's history. Nevertheless, it is reasonable to suppose that at a subsequent date, trading nations with a degree Chinese, Greeks, Phœnicians, etc., would have not only staunch vessels, but some means of guarding themselves against the risks of maritime enterprise, whilst people of a more warlike temperament, such as the Vikings, would naturally dispense with all schemes which might tend to check their freedom to seize by force that which they might not have obtained by barter.

As far as can be ascertained locally, the Chinese have had a system of private insurance in vogue from time immemorial. Only about ten years ago there died at Canton one Wong Tak Sing, who acquired great riches by insuring junks. He was a native of Amoy, and owned about fifteen vessels, but took risks on others according to his discretion. He knew the Formosa Channel, knew the strength and quality of the junks he had to deal with, and knew the pilots in charge. His rates varied accordingly: For Formosa, were often 35 per cent for the voyage; to Amoy or Swatow at the same season 25 per cent, the ships and crews assumed to be equal. Another underwriter of the same type was Lam Wei Yuen, of Formosa, who is said to have died worth five million dollars, all made by insuring native craft.

The invasion of the steamship and opening of ports in China have improved away the old styles of individual or mutual insurance, and we now have the Chi-On, the Yee-On, the Man-On, the Po-On, and other societies, which take risks on native craft on lines more or less copied from the methods of foreign companies.

Reverting to European history, when the practice of insuring ships and their cargoes became prevalent, the necessity naturally arose of adopting means to ascertain whether the vessels were seaworthy. No doubt in the early period each venture was taken on its own merits. Underwriters would know something of their local craft, their owners, captains, and crews, and the rate would be adjusted in a manner similar to the Chinese cases already cited. But with the expansion of the world's commerce, a more general system of collecting information regarding ships became a necessity.

In the 17th century, there existed in London a number of coffee houses which were resorts of captains and others interested in shipping, where they used to meet to discuss business, arrange freight, and so forth. One favorite house was owned or managed by a Mr. Edward Lloyd, and to him occurred the idea of compiling a Shipping and Commercial Chronicle for the use and benefit of those subscribing. This was founded in 1696. After a run of a few months, it was discontinued; but was subsequently resuscitated under the name of Lloyd's List, and continues to the present day, being the second oldest newspaper in existence. The Lists as published gave the age and build of vessels, voyage engaged in,

name of owner and captain, and other information useful for the guidance of insurers and merchants. Surveyors were appointed, and each vessel inspected was given a class according to her qualities, which was donated by Roman capital letters. When, therefore, the particulars of any vessel were required it was only necessary to turn to Lloyd's List instead of making individual inquiries as hitherto. The advantages to a vessel of having the magic letters after her name being so apparent, applications for survey became more and more numerous, and in 1770 the principal and underwriters and brokers, who had for so long made Lloyd's Coffee House their meeting place, found it necessary to form themselves into an association, bound together by some system of membership. This was the nucleus of the great organization known as Lloyd's. The society from time to time extended its scope; intelligence agents were appointed and signal stations established all over the world, enabling vessels proceeding to any port to be reported as they passed certain points. Business is thus facilitated, as for example, a tramp steamer loads grain in India, bound to Port Said for orders; at Port Said the captain receives instructions to discharge at Rouen; she is signalled as having passed Malta, and at Gibraltar, where she takes in bunker coal, the destination is changed to, say, Dunkirk. But the cargo is again sold during the passage, and when the pilot comes on board at Dungeness he brings orders to proceed to Hull. This is only a suppositious case, but is one which often happens and illustrates the value to a merchant of being a member or subscriber to Lloyd's. Lloyd's Register is distinct from the above society, although it is an off-shoot from it. The underwriters published a Register of Shipping which was founded in 1760, being the immediate successor of the original Lloyd's List, and in 1799 the merchants published a similar book. These were amalgamated in 1834, and the portly volume known as Lloyd's Register is the outcome.

This huge tome is a veritable encyclopædia of shipping intelligence. In it one can find particulars of almost every vessel afloat of over 100 tons. Information regarding all the principal docks and harbors; addresses of shipbuilders and marine engineers, with names and numbers of vessels they have built, their telegraphic address; and also that of shipowners, coal merchants, insurance agents, and others connected with shipping in all ports of the world; the signal letters for every known vessel and statistics of all kinds relating to the merchant navies of all nations. Besides this publication, Lloyd's issue a Register of Yachts. This handsome volume contains particulars of all yachts belonging to the recognized clubs; the names of vessel and owner, rating, flag, builder, dimensions, rig, list of designers, and a beautiful series of colored illustrations of the flags of the Yacht Clubs, British and foreign, and the racing flags of the vessels. There is still another book emanating from Lloyd's, and to shipbuilders the most important of all. This is Lloyd's Rules and Regulations, which is issued concomitantly with the Register. This valuable work supplies tables and data whereby every part of a ship and its equipment may be calculated, so that the resultant vessel will satisfy the requirements of the insurance societies.

When ships were first "classed," age was the principal consideration taken into account. The merit of appreciating how deceptive this principle was belongs to the Bureau Veritas, an association on similar lines to Lloyd's, which came into existence at Antwerp in the year 1828, but owing to the bombardment of that city, in 1832, its headquarters were removed to Paris, where they are still located. This society got out tables of scantlings, and took cognizance of the quality of the materials, general upkeep, and other factors which were of as much, and perhaps more, importance than merely the age of the vessels. Numerous other classification societies have since been established. These all belong to foreign countries, except the newest born, and their scope seems to be limited to vessels of their own nationality. The following is a list of all the principal societies and their headquarters:

Lloyd's Register	London.
Bureau Veritas	Paris.
Germanischer Lloyd	Bremen.
Norderlandsche Vereeniging van Assuradeuren	Amsterdam.
Norske Veritas	Christiania.
Record of American and Foreign Shipping	New York.
Registro Italiano	Genoa.
Veritas Austro-Ungarico	Trieste.
British Corporation	Glasgow.

(CONTINUED IN NEXT ISSUE.)

ADMIRAL MELVILLE ON MODERN WARSHIPS.

Rear Admiral Melville, Chief of the Bureau of Steam Engineering, U. S. Navy, in reply to questions from the representative of the Army and Navy Journal, gives the following very clear and complete statement of his views on the subject of armor and armament and the equipment of modern war vessels with the triple screw system of motive power. From time to time paragraphs have appeared in the daily prints crediting to him various opinions on this important problem, most of which were erroneous and none of them embodying his ideas in full. Hence the following, taken verbatim, is of exceptional value:

"What, in your judgment, Admiral, is the most important advance in naval construction that has been made during the past ten years?"

"One of the most important advances, certainly in improving the fighting qualities of the warship, has been in the direction of securing a better arrangement and distribution of armor and armament. It is now recognized by all naval authorities that, with a given displacement of hull, the efficiency of the vessel will be greatly influenced by the character and distribution of the battery and armor protection. Upon this subject the members of the Board on Construction have held widely divergent views, and to reach the best decision the Secretary of the Navy has sought the opinion of many naval experts. Numerous boards have been organized, to which the question has been referred, but almost invariably it has been found that the Chief of the Bureau of Ordnance has been sustained in his original recommendation. It is because the question is one that can be best comprehended in its fullness by a specialist who has made a study of the problem that the views of the ordnance expert have generally been followed.

"The same impelling reasons that have caused the Department to regard the Bureau of Ordnance as best qualified to determine this question of battery and armor, should be equally powerful in causing the Department to regard the Bureau of Steam Engineering as the primal authority in determining the best arrangement and distribution of the motive power. It is unreasonable to believe that the marine engineer should not in many respects be the professional expert best qualified to solve the problem of advantageously and efficiently distributing this power. Responsible as he is for the design, workmanship, care and operation of the propelling engines, it is to be presumed that he has given most study and thought as to the manner in which the motive power should be installed and distributed.

"Even before the attention of naval students had been called to the importance of securing an efficient distribution of armor and armament, the question of the best arrangement and distribution of the motive power had been studied by distinguished naval architects and marine engineers."

"What is your opinion as to triple screw engines?"

"The utility of twin screws had been shown by the marine engineer to be a necessity for constructive reasons before the importance of the tactical advantages had even been thought of by the naval strategist. The standardization of auxiliaries had been urged for engineering reasons long before the necessity of doing so had been recommended by those who realized that speed construction of warships could be advanced and the efficiency of the engineer department increased by using appliances that were of standard pattern. The passing of the Scotch boiler from the warship was apparent to the marine engineer long before its successor, the water tube type, was perfected and installed.

"The necessity for triple screws became manifest to the marine engineer as he contemplated the fact that with each succeeding year a progressive demand arose for increased speed both in the battleship and in the armored cruiser. It must be admitted that structural reasons first caused attention to be directed to such a design for distributing the motive power. It was on account of structural reasons, also, that the first twin screws were installed in warships. Experience showed, however, that there were tactical advantages in using two propellers. It is now quite significant that experiments with triple screw vessels in comparison with twin screw vessels of the German Navy have convinced the Admiralty of Berlin that the tactical advantages in the case of triple screws are even greater than the structural.

"It is my firm belief that the logical development of the design of naval machinery for high-powered vessels will be in the direction of triple screw engines. Any hesitancy

*From a paper read before the Institution of Engineers and Shipbuilders of Hong-Kong by W. G. Winterburn, managing director, Victoria Foundry, Hong-Kong.

upon the part of the Navy Department to secure such a distribution of power will surely tend to check that superiority which we have maintained as to the design and character of our warships.

"The triple screw is not a novelty. One of the prize essayists of the Royal United Service Institution of Great Britain, who is a distinguished naval officer, maintains that the advantages of the triple screw for practical and structural purposes far exceed its disadvantages.

"Russia is building triple screw vessels for comparison with the twin screw ships in the confident belief that the triple screw will show its superiority. In France nearly all new battleships and large cruisers are fitted with three screws.

"The semi-official journal of the German Admiralty, *Marine Rundschau*, declares that so far as Germany is concerned the superiority of the triple over the double screw is no longer a question of doubt. This expression of opinion by the *Marine Rundschau* is said to be based upon the Admiralty's conclusions from a series of experiments made to determine the relative worth of the triple and twin screw ships. In matters of original investigation and research, the Germans are proverbial for accuracy and thoroughness, and therefore it cannot be doubted that the subject was carefully and conscientiously examined into before any positive conclusions were drawn.

"Structural reasons first impelled the marine engineer to consider the advisability of using the triple screw. Tactical advantages have confirmed the wisdom of the decision. Experience has also shown that, where judgment is exercised, marked economy in coal consumption can be secured from such a distribution of power. Economy of coal consumption means greater steaming radius of action, and the value of this strategical advantage cannot be overestimated.

"In a brief resume of this question, it is impossible to tell, in detail, of the advantages that would accrue by the use of triple screws. It will be understood that under each of the terms, 'structural,' 'tactical' and 'economic,' groups of reasons can be advanced for adopting the design of triple screws. A few of the many structural advantages are as follows: Smaller propellers, smaller and lighter engines, smaller water-tight compartments, shorter propeller shafting, greater ease of overhauling, increased ease of protection, decrease of vibration, also decreased racing of screws, decreased danger to propellers when ramming, decreased danger to propellers when docking or going alongside wharf, lesser draft of vessel.

"Some of the tactical advantages are: The steering or maneuvering quality of the ship is not so likely to be interfered with in triple as in double screws. When either twin screw is disabled, an helm angle of from 6 to 10 degrees is required to keep the ship on her course. Such an angle would not be required if one screw of a triple system were disabled. The nearer the screw is to the center of the ship, the more efficient it is. Greater safety of machinery due to better distribution. Increased assurance of working the entire machinery is of especial significance to the commander of the ship. All the tactical advantages of twin screws are retained while additional ones are secured.

"The German experiments with the triple screw battleship *Friedrich III.*, when cruising with the twin screw ships *Bradenburg* and *Sachsen*, showed that great advantages rested with triple screw ships, particularly in the ability to steer well. It was found that the sailors learned to steer more easily with triple screw ships, and that evolutions could be performed with them which could not be done with the twin screw vessels.

"The economic advantages consist in the fact that there is a decreased daily consumption of coal. Coaling the warship is thus less frequent. Her radius of action is greater. She can remain upon the battle line a longer time without being relieved."

THE Canadian Minister of Public Works proposes to complete his inspection of the route of the proposed Ottawa and Georgian Bay Canal in August. He has already made the trip down French River, and is highly pleased with the waterway there. At the present Mr. W. Fraser, engineer of the Public Works Department, is making a survey of the north channel of Georgian Bay, with a view of ascertaining what improvements are necessary in the event of navigation being opened up between Sault Ste. Marie and Lake Nipissing, via French River.

WEATHER OBSERVATIONS WIN THE CUP.

The loss of the Canada's cup may be attributed to an oversight on the part of Hanley, designer of the Cadillac, in not obtaining reports as to the weather conditions existing at Chicago for the past thirty years, as did the builders of the Canadian challenger *Invader*.

Commodore Gooderham, of Toronto, according to reports, secured through the chief of the weather bureau service of Canada a report detailing the weather conditions, including the wind velocity and direction during the month of August at Chicago for the past thirty years. It is stated that the reports previous to ten years ago show a much lighter velocity than is the case at present. However this may be, the designs of the *Invader* were drawn for an exceedingly light wind after close study of the reports by Sibbick, the designer of the *Invader*, and to this study may be attributed the success in winning the cup. At the same time, no record can be held forth that Hanley, of the Cadillac, followed the same plan before designing his defender.

Some comment was caused when this state of affairs was made known. The foresight of the Canadians shows that they came for the cup with the intention of taking it back with them and they were prepared for the conditions which met them. Until the Cadillac arrived at Detroit no report of the weather conditions of the past was asked for by her owners or designers. On the other hand, the Milwaukee was built for exactly the kind of weather shown by the reports sent the Canadians.

While it is possible that a knowledge of the mean wind velocity at Chicago during the month of August for a cycle of years may have been worthy of the attention of yacht designers, a duplication of the weather during the several days of the race could by no means be counted upon for any one year.

STATEMENT OF THE VISIBLE SUPPLY OF GRAIN.

As compiled by George F. Stone, Secretary Chicago Board of Trade, August 17th, 1901.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	787,000	375,000	361,000	45,000	2,000
Chicago.....	4,353,000	7,593,000	1,087,000	176,000	2,000
Detroit.....	303,000	97,000	75,000	105,000	3,000
Duluth.....	1,026,000	1,296,000	448,000	121,000	79,000
Port William, Ont.	408,000				
Milwaukee.....	169,000	506,000	63,000	10,000	17,000
Port Arthur, Ont.	35,000				
Toledo.....	526,000	454,000	498,000	230,000	5,000
Toronto.....	26,000		100,000		1,000
On Canals.....	1,071,000	249,000	54,000		20,000
On Lakes.....	292,000	308,000	554,000		
On Miss. River.....	121,000				
Grand Total.....	26,769,000	12,783,000	5,546,000	935,000	252,000
Corresponding Date, 1900.....	49,761,000	9,102,000	7,024,000	681,000	389,000
Increase for week.....			1,094,000	203,000	
Decrease " ".....	1,450,000	513,000			63,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE ST. LAWRENCE ROUTE.

As bearing upon the subject of increased aids to navigation for vessels engaged chiefly in the St. Lawrence Gulf trade, the following from an experienced navigator may help to throw more light on the subject:

"Referring to the recent disaster on the southeast coast of Newfoundland, you will notice that between Cape Race and Cape Spear, a distance of about 54 miles, there are no sound signals. This appears to me to be a very grave defect, and I would suggest signals on Cape Ballard and Ferryland Head, which would enable mariners to find their position if their vessels have overrun the distance allowed by dead reckoning. I might also state that the soundings appear to be altering, as we seldom get the same depth as per chart."

CASSIER'S MAGAZINE of illustrated engineering has the following articles in its September number: Current Topics—Oil Engines in Palestine—By-Products—Utilizing White Metal Wastes—The White Star Steamer Celtic. Illustrated—The Unexpected that Sometimes Happens—The Thule Locomotive. Illustrated—Dangerous Currents in Overhead Electric Railway Conductors—Running Machinery by Sand—Water Curtains for Fire Protection—Steam Turbines for War Ships—Using Superheated Steam.

SHIPPING AND MARINE JUDICIAL DECISIONS. (COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Collision—Fog—Lookouts.—Where a tug entering a harbor in a thick fog in the night time has no lookouts on the bows of two barges alongside, which run ahead of her some thirty feet, it constitutes negligence. The A. P. Skidmore, 108 Fed. Rep. (U. S.) 972.

Breach of Charter Party.—Where the breach of a charter party did not take place in the state of Washington, and the offending vessel was never within the jurisdiction of that state, no lien for the breach is created by virtue of its laws. The Universe, 108 Fed. Rep. (U. S.) 968.

Lien for Supplies—Credit of Owner.—The owner of a vessel cannot avail himself of the fact that he had acquired a personal credit at the place where supplies were furnished, but to which he was not entitled, to defeat a claim to a lien for such supplies. The John McDermott, 109 Fed. Rep. (U. S.) 90.

Distribution of Award.—Where a steamer interrupted her voyage to tow a partially disabled bark into port, for which she was awarded compensation on a quantum meruit as a towage, and not as a salvage, service, the master and crew are entitled to no part of such award. The J. C. Pfluger, 109 Fed. Rep. (U. S.) 93.

Collision—Damages—Review on Appeal.—The finding of a commissioner, approved by the court, as to the cost of repairing a vessel injured in collision, based on the testimony of experts, the repairs not having been made, will not be disturbed on appeal unless manifestly incorrect. The William E. Ferguson, 108 Fed. Rep. (U. S.) 984.

Anchorage Ground.—A steamship anchoring in New York harbor outside of the anchorage grounds, where the depth of water was so great as to indicate that such anchorage ground was considerably nearer the shore, is guilty of negligence, so as to be equally liable with a tug colliding with it in a foggy night. The A. P. Skidmore, 108 Fed. Rep. (U. S.) 972.

Collision—Inland Rules—Navigation of Narrow Channels.—Article 25 of the inland navigation rules, established by Act June 7, 1897, requiring steam vessels in narrow channels, when it is safe and practicable, to keep to that side of the fairway or channel which is on their starboard side, is applicable to navigation of a channel in the Chesapeake Bay, 600 feet wide, and is mandatory, superseding all prior rules and local customs. The Acilia, 108 Fed. Rep. (U. S.) 975.

Collision—Barge and Anchored Dredge—Improper Anchorage and Insufficient Light.—A dredge lay anchored in the channel of the Schuylkill river, with her two scows abreast between her and the shore, the three occupying over eighty feet in width, when, during a foggy night, a large in tow of a tug, coming up the river in line with the dredge, came in collision with it, and both were injured. The barge had no rudder, and her movements were controlled entirely by those of the tug, to which she was fastened by two lines. The dredge carried two lights, but they were not such as were required by the Philadelphia harbor regulations, nor so placed, being about three feet below the upper deck. She was also in violation of the spirit of such regulations, by lying in the channel with the two scows abreast of her. She had no watch, and gave no signals. She was directly in the path of the tug, and her lights were not seen by the latter, which, however, succeeded in escaping collision with her after the outline of the dredge was seen, but not in time to save the tow. Held, that as between the dredge and barge, the tug not being a party, the dredge was solely in fault for the collision. Connolly et al. vs. The Brandywine Granite Co. No. 6, 108 Fed. Rep. (U. S.) 99.

Obstruction of Channel—Failure to Display Lights.—Eight vessels were moored abreast at a coal dock on a dark and foggy night, extending 185 feet into a channel which was not more than 500 feet wide. No watch was maintained on the vessels, no fog signals given, and no lights displayed, except ordinary lanterns, most of which were placed on the decks, and which could be seen only a very short distance, owing to the fog. During the night a steamer came in on her regular trip, and was compelled to pass up the channel to her own dock, above. She was in charge of a competent pilot, and on a course which took her 100 feet outside the coal dock. She had proper lookouts, and was under only sufficient speed to give her steerageway, and could be stopped in a distance of 125 feet. Her lookouts did not see the lights on the moored vessels until she was within fifty feet, when she at once reversed, but came in collision with libellant's barge, which was the sixth vessel from the dock, and sunk her. Held, that the steamer was not chargeable with any fault, but that the collision was due solely to the want of ordinary care and prudence on the part of those having charge of the moored vessels, in permitting them to obstruct the channel under such circumstances without taking any measures to give notice of their presence to other vessels. The Kennebec, 108 Fed. Rep. (U. S.) 300.



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regarded.

CLEVELAND, O., AUGUST 22, 1901.

MUNICIPALITIES authorize the expenditure of enormous sums to build miniature islands miles lakewards from their county or state shore line, but summer garden surroundings are not permitted thereon.

MEAFORD is a new grain receiving port situated between Owen Sound and Collingwood on Georgian Bay. The traffic will be tributary to the Grand Trunk Railway. The port is considered a good, safe one and easy of access.

APPROPOS of the war craze notions which occasionally seize hold of writers on lake matters, would it not be a paramount necessity to have the waterworks cribs fortified in the event of an invasion? It is gratifying to imagine that there is no immediate need of prompt, energetic and adequate action.

It is very inexact to say that the British steamer Monks-haven carried a cargo of steel from Conneaut to England in October last. It would be more in accordance with the truth if it was stated that she was ballasted with steel down to her 13-foot marks, at which draft she may be just about reaching her bearings.

THE Nova Scotia government offers a bonus or subsidy of \$100,000 for the establishment of a steel shipbuilding plant. This modest sum is, of course, an inducement and would assist in the purchase of modern tools, but the assurance of continued work would have much more weight with practical shipbuilding firms.

THE thanks of the RECORD are due the Hydrographic Office, Bureau of Equipment, Department of the Navy, Washington, D. C., for copies of the North Atlantic and Pacific Ocean pilot charts for August. We have to say that, among the several brilliant and talented naval officers detailed as hydrographers in the past, the present officer in charge, Capt. C. C. Todd, U. S. N., fully equals the work of any of his predecessors and is evidently "to the manor born," as hydrographers should be.

WE ARE in receipt of quite an elegant book of plans and drawings of the long bridge across the Potomac river, Washington, D. C., as designed by the Scherzer Rolling Lift Bridge Co., Monadnock block, Chicago, Ill. We note that a large number of railroad and swing bridges have been and are being replaced by Scherzer rolling lift bridges, because of their superior advantages in every respect. All of the prominent lake ports are now spanning their rivers with the Scherzer construction and plans are in hand for duplicating the work at other points.

MUNICIPALITIES USURPING LAKE RIGHTS.

WE have from time to time pointed out the danger to shipping which is likely to result from dotting the entrance to lake ports with large, permanent, artificial obstructions, poorly lighted and badly placed; the latest previous allusion to this subject being in our issue of June 13. The deplorable loss of life at Cleveland in constructing the large water supply tunnels, running out five miles under the lake, again calls attention to the unwarrantable action of municipal bodies and the enormous risks they accept and force others to take in their monopolizing the approaches to a port. Several months ago we suggested that the attention of the Secretary of War be directed towards this subject, and that all plans of constructive and permanent works be first submitted to him through the Chief of Engineers, Corps of Engineers, U. S. A. There is still a half mile of excavation and construction work to be done at Cleveland, the attempt to secure a greater supply of fresh water costing at the rate of twelve lives to the mile, with an untold ratio of temporary and total physical disability cases, such as should not be permitted in waters under the control of the federal government, especially, when an expression from skillful engineers might have prevented such. Five miles from the base of operations, lakewards, another miniature island is to be built in the lake and the initial project seems to have been nursed in parsimony and matured to the tune of peculiar theories regardless of human life in the efforts at completion. Submarine tunneling usually involves great risks to health, life and property, and the history of such work proves to be the case, but no features of carelessness or ignorance should be allowed to make the risky work still more dangerous.

The editorial contained in our issue of June 13 is of equal moment at the present, and even at the risk of repetition we again state the condition as follows:

"Every city along the chain of lakes desires and requires the clearest and purest of water for drinking and domestic purposes. Every city, town, village or hamlet also drain their sewerage toward the lake front. The larger cities keep building cribs, forming permanent obstructions like small unlighted and frequently uncharted islands miles out from the approach to the ports, so as to insure the intake being in clear water and outside the drift of purely local sewerage. These distant cribs are already beginning to encroach on the general navigable waterway, outside of the State jurisdiction and the outer harbor limits which is in charge of the Federal government, and enclosing the piers, breakwaters and all else. There is no present or immediate danger of cribs from either side overlapping each other in midlake, but the subject in general would stand the direct attention of the Secretary of War, under whose charge is placed the improvement and conservancy of navigable waterways."

The question naturally arises whether the Secretary of War has exacted that degree of supervision and authority vested in his office, and has, after a duly professional inquiry, acting under the advice of his subordinates in office, granted permits for these permanent obstructions and the laws under which they shall be allowed to claim territorial rights over the general commerce frequenting the waters adjacent to the largest lake ports.

May we not with equal suggestiveness remark that the district officers of the Corps of Engineers, U. S. Army, might do well in exercising the functions reposed in them in relation to river and harbor work, when apparently dangerous and unauthorized works of a permanent nature are being planned, so that due official attention may be given to the methods in use, form of construction, durability of such etc.

BANTRY BAY, situated in the south-west corner of Ireland, is a well sheltered cove, and Berehaven is a little town that would stand developing, so also is Queenstown in the Cove of Cork. Bantry Bay is all right for a naval rendezvous during summer maneuvers, but it is out of the question for an Atlantic passenger terminal. The views of the Atlantic liner shipmasters would no doubt send Berehaven's aspirations higher than Gilderhoy's kite, and that dusted the clouds, in hard, westerly weather.

THE interests, now considering the development of the lake, canal and St. Lawrence river traffic, appear to be working along on sensible lines. It is not their object to enter the trans-Atlantic trade, but to carry their exports in special bottoms to as near the ocean going craft as possible. In a word, Montreal is considered the junction where interlake and canal carriage can meet that of the Atlantic and vice versa. Thus may the province of special tonnage be utilized to the best advantage.

SWING BRIDGES VERSUS ROLLING LIFT DRAW BRIDGES.

It is probable that there is nowhere in the world where the subject of bridging rivers has been given so much attention as on the lakes, that is, at the principal lake ports.

If we take for instance, the western metropolis, known to geographers and others, under the euphonious name of Chicago, we find the study and scientific plans for practical bridge building in river spans worked to a standstill, to the highest point of convenience, safety, durability and stability—and all of this evolved by, or from, the imperative requirements of modern commerce.

It is remarkable and worthy of note that the best bridges take somewhat after the form of the ancient drawbridges, with the addition of the highest type of mechanism known to the engineering art and science for the construction and manipulation thereof.

The old-fashioned swinging draw, with their center piers and protective works are fast falling into disuse, no new ones are being built, nor should they be allowed in any navigable waterway, and where large repairs are required the center piers are being condemned and lift bridges, controlled from the natural banks of the stream, river, channel or watercourse take their place. The conditions are entirely different in spanning a gulch or ravine, or anywhere where waterborne traffic is not in question.

The foregoing views seem amply borne out by the protest of twenty-nine shipmasters against a center-pier bridge in the Calumet river at South Chicago, contained elsewhere in this issue of the RECORD, and, "reasons are as plenty as blackberries" in favor of their judgment.

ST. LAWRENCE NAVIGATION—WRECK CHARTS.

The recent losses in the Gulf of St. Lawrence and around the coasts of the Dominion, and the numerous complaints that have been made as to the insufficiency and inefficiency of the navigational aids in Canadian waters, have resulted in the Government taking preliminary steps with the object of ascertaining the exact conditions obtaining in those waters.

We look for the most commendable results from the compilation of a wreck chart which has been undertaken by the Newfoundland Minister of Marine, and so as to show the number and location of wrecks which have taken place during the past forty years within his present jurisdiction.

A wreck chart is a graphic delineation of the points to avoid, it also shows where the most powerful lights and fog signals should be placed, the proper location for life-saving stations and all other aids to navigation, as well as the dangers incidental to coastal navigation and piloting in the vicinity where it is shown that the majority of wrecks occur. Newfoundland has cast a greater stigma on St. Lawrence navigation than any other cause, and if Minister Murphy's wreck chart is, as it ought to be, the best and greatest step towards eliminating the dangers attending the approach to the St. Lawrence Gulf and adjacent coast line will have been taken.

The wreck chart of the Great Lakes, published by the Weather Bureau several years ago, was of inestimable benefit, as was also the surface current charts; the Navy Department then issued a wreck chart of the New England coasts, and it behooves the Dominion Minister of Marine to grant similar assistance, by authorizing the compilation of a wreck chart for at least the eastern portion of the Canadian coast line.

Such a delineation offers irrefutable evidence of the needs demanded. It either strengthens the advocacy, or makes the mooted points of expert technical evidence vanish. The chart, with its addenda, and this should be as complete as possible, is a silent witness of unimpeachable testimony and points out to the average intelligence the most important needs of the locality and whether they are increasing or diminishing, according to the frequency or otherwise of strandings under the special if varying conditions relating to the occurrences.

The RECORD published just such suggestions as are contained in the foregoing in every issue, fifty-two times a year; many of these advocated innovations are successfully adopted, and, with the issuance of a Dominion and Newfoundland wreck and current chart we believe that the pathway to lake commerce and greater development will undoubtedly be accomplished.

Geo. Chambers, of Toronto, is having built at Chicago a steel pleasure steamer, 180 ft. long, and 25 ft. beam. She will have four tenders equipped with gasoline motors.

THE officers of the British mercantile marine are treated individually and as a body, worse, or rather meaner, than any other similar class of men holding semi-national and responsible certificated positions in the service of their country. Their wages are low, positions insecure, and conditions of employment irritating from a legal and professional bearing, as well as their employers' shackling claims over them after signing articles of service. It is a great wonder why perfect physical and spirited, intelligent young men will bow their necks to the yoke. Even after running through the whole gamut of promotions and its consequent bafflings, accompanied by governmental red tapeism until they hardly know who owns them, they are confronted at the top of the ladder with the energy, skill and talent of any or every other nation under the sun in seeking for a position wherein to apply their experience, and their owners say that this must remain so. In the case of American tonnage all the officers of vessels of the United States, including pilots, engineers and their assistants, must be citizens or suffer a penal tax for the employment of alien officers, be he never so qualified a seaman. Furthermore, no master, mate, pilot or engineer is liable to draft in time of war, except for the performance of such duties as he is certificated for and only then at the highest rate of wages paid for such services, and after being granted all the privileges known to the pension laws of the Army and Navy. We have, of course, no concern with the manner in which John Bull treats his mercantile marine officers, but it is naturally hateful to see good men imposed upon, not only by his country, but by the dollar-grabbing propensities of his superiors in wealth and those who are loaded with chicanery.

THE War Department very quietly disposes of one of its recently acquired transports for a sum little over half what it cost to put a refrigerating plant in her. Any number of likely purchasers awaited the announcement of appraisal and disposal of this and similar craft, but not a whisper was heard until the Terry was sold for less than \$20,000 at a so-called public auction. Her new owners, desiring to carry some insurance while the vessel was changing ports, found that underwriters placed the risk for this purpose at \$100,000 but after considerable persuasion modified the appraised value of the temporary risk at \$75,000 and required a 2½ per cent. premium paid on that figure. P'raps there is some explanation due the marine interests from the transport service of the War Department for the cause or causes which led up to and brought about such a handsome donation to the tonnage and passenger service of the lakes.

SOME years ago vessel owners made a graduated scale of wages for engineers in lake service. The president of the engineers' association has now introduced this system on steamers sailing out of New York. All steamers on a route exceeding 24 hours steaming are compelled to carry three assistant engineers, for less than that time, two assistant engineers. The scale of wages varies according to the class of vessel and trade and from \$150 per month for chief engineer in the 1st class down to \$60 per month for 3rd assistant engineer in the 2nd class.

WITH the tie-up of trade and cessation of commerce at so important a center on the Pacific slope as San Francisco is, the lesson is pointed out that the factor of labor will need to be more closely reckoned with in the future than ever it has been in the past. This is also true regarding other centers of industry, not omitting the distinctively marine element which is now having so marked an effect in the 'Frisco struggle between labor and capital.

WE note that the Ohio Fish and Game Commission, Columbus, O., express a desire to give a due share of protection to the fishing industry and now ask for bids for the construction and equipment of a patrol boat for use in Ohio waters. This is a very commendable departure and an innovation which all States bordering on the lakes would do well to copy from and adopt.

EVEN if our "Uncle Samuel's" cabinet guaranteed under writing risks gratis, the Northwestern Steamship Co. could not manage a paying line of cargo steamers between Chicago and European ports. The recent abortive attempt to do so has resulted in more harm than good, inasmuch as it has brought a competent limited waterway into disrepute.

HYDROGRAPHIC OFFICE NOTES.

Lake Superior—Portage Lake Ship Canal—Life-saving Station Moved—The life-saving station near the Lake Superior entrance to Portage Lake ship canal has been shifted to temporary buildings near the lake front with the design of erecting permanent buildings in the near future near the present location.

The temporary structures are situated 200 feet from the lake shore and 600 feet eastward from the east canal pier. They are plainly visible to vessels entering or leaving the canal.

Lake Superior—South Shore—Westerly Current between Eagle Harbor and Apostle Islands.—Information has been received from the Branch Hydrographic Office at Duluth that the body of a seaman, recognized as belonging to the tug Fern, which sunk on Eagle river reef June 28, 1901, was picked up by the steamer Spokane, at noon, July 8, 1½ miles from Outer Island light-house. The body was upheld by a life preserver and floated head out of water.

Note.—The body apparently had drifted westward about 90 (103) miles in about ten days, showing a westerly current of about 9 (10) miles in 24 hours.

LAKE FREIGHTS.

Iron ore rates remain at former figures, viz. 60, 70 and 80 cents from Escanaba, Marquette and the head of the lakes respectively. The delays due to shortage of cars and dock space leaves the result certain that less ore will be handled this month than in the preceding one. Vessels also experience detention with the result of lesser earnings, though Escanaba shipments are brisker.

The coal freight situation is of the most interest just now, as, while Buffalo paid 50 cents to Milwaukee and Chicago, 60 cents to north branch or South Chicago, only 40 cents could be got from Ohio ports, but the indication now is that 50 cents will be the going Ohio rate by the end of the week and that Buffalo will then advance her rate to secure tonnage. Freights to the head of the lakes still hold at 35 cents; Portage, Marquette, 40 cents; Green Bay, 50 cents; Waukegan, Racine, Sturgeon Bay, 60 cents. Buffalo shipped 60,000 tons last week, Chicago, Duluth-Superior and Milwaukee taking the bulk, with season shipments 200,000 tons behind last year's showing.

Grain rates out of Chicago are at 1¼ cents on corn to Lake Erie, an advance of ½ cent. Fort William to Buffalo October 15 to November 20, 3¼ cents and 1,000,000 bushels placed. This rate is equal to \$1.21 on ore. Duluth has about 8,000,000 bushels chartered ahead for September and October loading at 3 cents and early November at 3¼ cents.

Lumber is moving freely at former rates, \$2.50 from Lake Superior to Ohio ports. At the last meeting of the board of directors of the Lumber Carriers' Association it was decided to hold the rate from Lake Superior ports at \$2.50 and to advance it to \$3 Sept. 1.

LETTERS AT DETROIT MARINE POST OFFICE

AUGUST 21, 1901.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Brown Robt., Falcon	King Jos., Rockefeller
Blackwell Wm., 126	Murray Thos., Denver
Benedict Jack, Bulgaria	Moran Ed., Raleigh
Burnholder Chris., Mauch	Mooney Vic, Macy
Bradley Ossm [Chunk	Moor Henry R.
Blautern Bert 2, Whitney	MacDonald Jno., J. M. Hutch-
Cape R., J. M. Hutchinson	O'Mara Mike, Hurlbut [unson
Cushway Morris, 117	Olsen Magnus, Castalia
Connell Jas., Tower	O'Neil Martin, Portage
Ennis Jao., Princeton	Prout Wm., Morley
Fiebach Phil. 2, Bunson	Paulsen Gus, Morley
Finkle Jerry 2, Hoyt	Pennoyer C. L.
Franks Otto, Colgate	Rabshaw J. W., D. P. Rhodes
Fosdick Henry, Waverly	Rowley Thos. F., Waverly
Foster Geo. H., Jr.	Rapkin Edith, Algeria
Greer W. S., Stafford	Reynolds H. H., Omaha
Gordon A., Princeton	Rae Chas.
Goodwin Andrew	Simmors Lee, Gladstone
Geissendczler Geo. 2, Viking	Smith Tom, Iron Age
Grey John C., Gogebic	Smith Walter, Eagle
Henderson James 2	Shaw J. W., Crosthwaite
Hamilton John, Uranus	Santey John
Holbrook Abel, Carnegie	Turner Arch, Capt. Wilson
Johnson Tom 2, Wilkesbarre	Thompson Jno., Rochester
Johnson Martin, Merrimac	Vine H.
Johnson Frank, Uranus	Webb Mrs. J. E., Swain
Jewett R. A., Cap Wilson	Welch Jno., Tampa

CALUMET RIVER—SOUTH CHICAGO.

BALTIMORE & OHIO RAILROAD BRIDGE.

A firmly grounded complaint having arisen among the masters of vessels in the South Chicago trade relative to an unwarranted obstruction placed in the Calumet river, the attention of "the powers that be" was called to the matter in our issue of July 25, as follows:

"The attention of the officer of the Corps of Engineers, U. S. A., in charge of the conservancy and improvements of rivers and harbors within the Chicago district, is called to the very inconvenient and dangerous location of the protecting pier of the Baltimore & Ohio railroad bridge in the Calumet river.

"This artificial obstruction is the cause of much annoyance and anxiety to captains frequenting the port, and not a little damage to vessel property. To get through the draw, vessels are compelled to make a reverse curve, with the attendant danger of colliding with or striking vessels moored at the Iroquois Iron Co. dock, north of the bridge, and especially so when there is a fresh breeze or the steamer is without a tug. Three vessels have thus far unintentionally damaged other boats lying at this dock, and subjected themselves to more or less extensive damage claims for so doing, although the avoidance thereof was impossible under the conditions.

"Those regularly trading to South Chicago observe great caution and advise others so to do when passing this draw, and the statement is made that it would appear as if the railroad company's wishes in the matter were solely considered when the construction was authorized by the government, and this, too, to the detriment of the interests of navigation, as a bascule bridge would have been better for all concerned.

"The present inconvenience and danger is so marked that a joint protest from masters compelled to use this draw is now being considered for presentation through the proper channels to those having authority in this matter."

We are now in receipt of the following protest signed by 29 masters of vessels having an aggregate tonnage of 77,662 gross, and, as showing in a measure the size and importance of the command, each signer thus represents a craft having a gross register, in the mean of 2,678 tons.

We also note the additional signature of Capt. C. H. Sinclair, a well known marine surveyor in the employ of lake underwriters and insurance agents.

SOUTH CHICAGO, ILL., August 21, 1901.

To the Editor of the Marine Record:

We, the undersigned masters of steamers trading in and out of South Chicago, wish to enter, through your valuable paper, our protest against the Baltimore & Ohio railroad bridge over the Calumet river as we think it is an obstruction and menace to navigation, for with the lightest breeze of wind it is almost impossible for light boats to get through without doing damage.

NAMES.

STEAMERS.

Capt. H. W. Stone.....	Douglas Houghton
Capt. Jas. Leisk.....	Superior City
Capt. Fred Hoffman.....	Malietoa
Capt. H. M. Boyce.....	Marion
Capt. Alex. Begg.....	John Mitchell
Capt. A. C. Callam.....	E. M. Peck
Capt. T. D. Gibson.....	Alex. Nimick
Capt. C. H. Francke.....	Geo. Stone
Capt. W. G. Stewart.....	Mars
Capt. R. F. Humble.....	Empire City
Capt. J. W. Isbister.....	Samoa
Capt. H. F. Loftus.....	H. E. Pocker
Capt. A. C. Neal.....	Fred Mercur
Capt. J. E. Yax.....	Maryland
Capt. A. McArthur.....	Madeira
Capt. F. J. Crowley.....	Sir Wm. Fairbairn
Capt. F. G. Root.....	Mataafa
Capt. Tim Kelley.....	Manchester
Capt. H. McNeil.....	Thos. Cranage
Capt. J. H. Sinclair.....	Black Rock
Capt. C. Z. Montague.....	S. S. Cornell
Capt. James Jackson.....	Yale
Capt. P. A. Peterson.....	Jos. L. Colby
Capt. Whitney Carr.....	Omaha
Capt. David Wilson.....	Topeka
Capt. Alva B. Keller.....	Hiawatha
Capt. E. S. Ballentine.....	City of Paris
Capt. M. Fitzgerald.....	G. G. Hadley
Capt. Geo. H. Banker.....	Joliet
C. H. Sinclair.....	Insurance Surveyor

A Bath concern has closed a contract to supply windlasses for the two mammoth Great Northern steamships building at the works of the Eastern Ship Building Co., New London, Conn. These windlasses are of a new type, being an improved British liner vertical windlass with horizontal wildcats above deck and warping capstans operated by the windlass engine. These windlasses will be the largest ever made, the weight of each machine approaching 80 tons. The indicated horse power of the double engines will be 500.—New York, American Shipbuilder.



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without attention, and can be seen
a distance of six miles.

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SUBSIDIZED SHIPPING IN COMPETITION.

There is a whole volume contained in the brief and apparently harmless item printed this week in the San Francisco Daily Commercial News and Shipping List which may be taken to heart by our subsidy loving advocates.

"There are upwards of forty French sailing vessels, all of recent construction, bound to Pacific coast ports, some in ballast and some at nominal freight rates, but in nearly every instance under charter to load grain on this coast for Europe at from 38-9 to 40-. The reason the vessels can take business at such figures is the bounty paid by the French government, which is sufficient to pay expenses for the voyage out, and the return, at rates obtained, pays a good profit. There is a wide difference of opinion as to the merits of the bounty system, but the people of this coast owe a debt of gratitude to France for enabling her ships to come here. The falling off in the demand for coal, the increased promptness in delivery of merchandise by steamer, and the inroads made by overland transportation on goods formerly sent to this coast by rail has reduced the cargo offering to such an extent that only extreme freights outward will tempt sailors this way. With the bounty, the French vessel can come at a profit when vessels of other flags would make a loss, and that accounts for the rapid increase in tonnage headed to the Pacific that flies the tri-color."

Now, how far is each maritime nation prepared to overbid other nations in competition for the carriage of over-sea traffic? Furthermore, it should be remembered that a large amount, if not the major portion of the investment represented in this fleet of forty French sailing vessels, has been paid to the Scotch shipbuilding industries on the Clyde.

In this connection we note the evidence being given before the British Subsidy Commission now in session. Mr. Knott, on behalf of the North of England Steamship Owners' Association, stated recently in answer to a question as follows: "The Germans, from the Kaiser downwards, were doing everything possible to promote German trade. Here, on the other hand, persons in high places turned no sun upon them, but only a cold north-east wind. Our trade was slipping away out of our hands—a little here and a little everywhere—and it seemed to be nobody's business to take care of it." And Mr. Knott related the following circumstance to establish his contention: "Some time ago there was a new railway to be made in Turkey, and there was a lot of railway material to be carried from Antwerp. At that time his company had an arrangement with German owners to run on an equality of rates, but railway material was not covered by the arrangement. He was competing for this railway material, and was informed that the Kaiser had himself written a letter in his own hand to the Sultan of Turkey, and that the Sultan had written back that a Dutch-German company was to have the carriage of it."

In dealing further with this portion of the evidence the Shipping World (London) remarks: "Mr. Knott stated that he knew that some 'owners interested in the American trade had come back from the States, having made arrangements to register their vessels under the American flag.' That, we assume, was contingent upon the American Subsidy Bill passing into law in such a form as will make it possible

for British built ships to receive the American register without time limit as to construction. Mr. Knott knows that according to the bill as it now stands, such transfer would be absolutely impossible. And he also knows that American shipbuilders are strenuously opposing any extension of the privileges under this head. It may be that the bill will become law, containing much more liberal clauses in respect of foreign-built tonnage than it does at present; but this will not be done without a fierce struggle. And it will not surprise us if the bill should entirely fail through a conflict brought about by this question, between shipbuilders, supported by some shipowners who oppose the further admission of foreign-built ships, and some large shipowners who favor that departure."

It is just as well, in view of the intended revival of the shipping subsidy legislation, to have the several views of this important question brought as clearly to the light of day as possible. The most strenuous advocates of the subsidy measures are the most righteous and sincere well-wishers in their desires for the upbuilding of the United States mercantile marine, though perhaps going so far as to admit that the advantages offered to the few are for the benefit and great good of the many, also, in the ultimate, for the country.

TREASURY DECISIONS.

BOATS AND BARGES UPON RIVERS.

Such craft are not to be numbered or documented if exempted by the provisions of certain acts from the regulations requiring official numbers, etc., for vessels.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION,
WASHINGTON, D. C., August 13, 1901.

Sir:—In reply to your letter dated the 5th instant, this office has to state that the fact that freight barges and boats do a large business in your district does not affect their exemption from the requirements of law as to numbering and documenting by the provisions of the acts of April 18, 1874, and June 30, 1879 (T. D. 23219).

The instructions cited of the 2d instant apply to all districts upon rivers or lakes of the United States having boats or barges like those specified in said acts, and should be considered as relating to such craft already documented after the surrender of their papers by reason of expiration, or for any other proper cause.

Respectfully,

E. T. CHAMBERLAIN, Commissioner.
Surveyor of Customs, Evansville, Ind.

FREIGHT BARGES ON RIVERS.

Freight barges on rivers may carry passengers without taking out marine documents.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION,
WASHINGTON, D. C., August 13, 1901.

Sir:—Replying to your letter dated the 10th instant, this office has to state that in view of the exempting provisions of the acts of April 18, 1874, and of June 30, 1879, freight barges on rivers or lakes of the United States need not be documented as vessels of the United States, although having passengers on board.

Respectfully,

E. T. CHAMBERLAIN, Commissioner.
Surveyor of Customs, Evansville, Ind.

THE Hansa Steamship Co., of Bremen, proposes to establish a line of steamers from New York to South Africa and East India; and with this end in view, nine large vessels have been ordered. The promoters of the enterprise believe that they will be able to successfully compete with the English lines running to all parts of India and Africa.

NOTES.

THE new torpedo boat cruiser Foudes, which was built by the British Admiralty as an experiment to test whether a cruiser can carry torpedo boats for launching on the high seas, has been an utter failure. It was found that the torpedo boats could only be launched from the cruiser in a harbor, in smooth water. The Admiralty has ordered that the Foudes be converted into a naval repair ship.

THE British Commercial Agent in the United States has his headquarters at Chicago; his general duties consist in watching and reporting on the commerce, industries, and products of special districts, and in answering inquiries from chambers of commerce and firms. His salary is £500 (\$2,500) a year, and he also receives an allowance of £300 (\$1,500) to cover traveling and other expenses. His salary and allowance, as well as those of the other commercial agents, are accounted for under the Diplomatic and Consular Vote, subhead "Special missions," partly under the heading "Collation of commercial intelligence" and out of "Unforeseen missions."

SIR WILFRID LAURIER, at a recent meeting with the Quebec Harbor Commissioners, heard their views on the question of improving the St. Lawrence from Quebec to the sea, and in reply informed the commissioners that the improvements asked for in the memorial presented to the government in April last would be carried out next season. The improvements proposed include the laying down of more gas buoys, the substitution of occulting for fixed lights, the dredging and straightening of certain channels, the erection of piers, and the placing of steam sirens instead of fog guns at different points. The deputy minister of marine, who accompanied the premier, stated that most of the improvements were already in progress.

THE Superior Gas Engine Co., West Superior, Wis., has put on the market a new launch propeller, for which the following claims are made: No gears, levers, clutches or screws to get out of order or break. Hub is smooth and compact. No projections to impede rotation. Blades are interchangeable, independent and easily removed and replaced. Blades are built on center line, reversing power is thereby distributed to them with positive evenness, overcoming all tendency to bind or cause friction when in motion. The wheel can be so pitched by means of the operating lever as to work the boat at anything from full speed ahead to full speed astern, furnishing no power whatever when the lever is on center. Reversing lever can be placed at any desirable point in the boat.

ONE of the highest standard water-tube boilers manufactured is the Roberts safety water-tube boiler, made by The Roberts Boiler Co., New York. Over 1,000 boilers have been built by this company in the last 15 years, and not one man has been killed nor has there been any serious accidents caused by their boilers. These boilers combine safety and economy and are manufactured from the best material, especially made for this company. Their boilers are used on launches, yachts, passenger and cargo steamers, dredges, tugs, stern wheel, canal boats, for the navy, war, treasury and the New York dock departments, Light-house board, and revenue cutter service. The year 1900 will be eclipsed by 1901, although last year was the best business year since the formation of the company.

SUN'S AMPLITUDES.

The following approximate amplitudes of the Sun's rising or setting will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.
 Date. Amplitude. Bearing P'ts. Bearing Comp.
 Aug. 22....E. 16° N. = N. 6½ E. = E. by N. ½ N.
 Aug. 25....E. 15° N. = N. 6¾ E. = E. by N. ¾ N.
 Aug. 28....E. 14° N. = N. 6¾ E. = E. by N. ¾ N.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION
 LAKE MICHIGAN, LAT. 44° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.
 Aug. 22....E. 17° N. = N. 6½ E. = E. by N. ½ N.
 Aug. 25....E. 15° N. = N. 6¾ E. = E. by N. ¾ N.
 Aug. 28....E. 14° N. = N. 6¾ E. = E. by N. ¾ N.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.
 Date. Amplitude. Bearing P'ts. Bearing Comp.
 Aug. 22....E. 17° N. = N. 6½ E. = E. by N. ½ N.
 Aug. 25....E. 16° N. = N. 6¾ E. = E. by N. ¾ N.
 Aug. 28....E. 15° N. = N. 6¾ E. = E. by N. ¾ N.

LAKE SUPERIOR, LAT. 48° N.
 Date. Amplitude. Bearing P'ts. Bearing Comp.
 Aug. 22....E. 18° N. = N. 6¾ E. = E. by N. ¾ N.
 Aug. 25....E. 17° N. = N. 6¾ E. = E. by N. ¾ N.
 Aug. 28....E. 15° N. = N. 6¾ E. = E. by N. ¾ N.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

FUEL ECONOMY AND SPEEDS.

A paper of first-class importance was read at the meeting of the Institute of Mechanical Engineers recently, at Barrow, England, by Mr. McKechnie, giving a review of marine engineering during the last ten years, in the course of which he spoke at considerable length of fuel economy. He said that in 1872 the average coal consumption per i.h.p. per hour was 2.11 lb. By 1881 this figure had been reduced to 1.83 lb. In 1891 the triple-expansion engine had been brought to 1.52 lb., while at the present time the average figure is put at 1.48 lb. The average pressure now ranges between 180 lb. and 214 lb. per square inch. A ship to carry 5,000 tons of merchandise requires 3,475 i.h.p. to propel her thirteen knots, and 8 lb. of coal will be sufficient to generate steam to carry each 100 tons one mile. The advantages due to larger ships were set forth. The total number of vessels over 10,000 tons was but two ten years ago; now there are 51, of which ten are over 13,000 tons, of which four belong to Great Britain and six to Germany. Ten years ago there were only 91 vessels exceeding 5,000 tons; at the end of last year there were 505. It would seem that the limit has been reached with tank boilers, because shell plates have been brought to a thick-

ness of 1 19-32 of an inch, and that with a diameter of shell of only 13 ft. The preference in the merchant service is given to heating the air before it reaches the furnace by a closed ashpit and either forced or induced draught. Oil fuel confers great advantages in uniform and easily regulated stoking, and the price of oil relatively to that of coal is decreasing. As an auxiliary to coal, and burned in conjunction with it, the advantages for war-vessels appear considerable. Mechanical stokers, though now widely adopted for land boilers, have not been much used afloat, though there seems a wide field for them, especially if the water-tube boiler with its large grate is likely to come into use for mercantile as well as navy vessels. In 1891 there were only eight vessels whose speed exceeded 20 knots, but now there are fifty-eight. The highest speed attained twenty-five years ago was 25 knots recorded for a British-built Brazilian torpedo-boat, the fastest torpedo-boat in the British navy then being 22½ knots. Now the record is held by the steam turbine propelled destroyer Viper, which has attained a maximum of 37.113 knots and a mean for one hour of 36.581 knots. The highest ocean speed ten years ago was 20.7 knots made by the Paris. Today the highest speed on an ocean run has been achieved by the German liner Deutschland, which has maintained an average of 23.51 knots.

The destroyer Viper, which struck on Burhow Island, Alderney, Channel Islands, August 3, when steaming away at 17 knots an hour, having escaped the enemy during naval manoeuvres, was launched from the yard of Messrs. Hawthorn, Leslie & Co., Ltd., on the Tyne, on the 6th of September, 1899. On her unofficial trials, on the 18th of July, 1900, she made 37.113 knots, or 43 statute miles an hour. She was fitted with the Parsons turbo-motors to indicate 12,000 h. p. The accident is attributable to the dense fog into which the Viper entered. She jumped a ledge, tearing out her bottom, her bows going under water, her stern being thrown high out of water, while the vessel was held amidships by the rock. She was 210 ft. long by 21 ft. beam, and had a displacement of 350 tons. Her boilers are of the water tube Yarrow type.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the conditions of the Eastern freight market as follows:

The Government Crop Report recently issued, practically confirms the anticipated damage to and consequent shortage in our maize crop, and whilst opinions vary as to the extent of this damage the further advance in prices both in wheat and maize, without response on the part of European purchasers, has increased the difference between the respective markets to such an extent that new business, for the time being, has become practically impossible. The grain markets on this side, however, are beginning to show a weakening tendency and as Europe remains apathetic a serious decline on this side will be needed before business becomes again practicable.

Tonnage continues to press upon the market and prompt vessels are experiencing the greatest possible difficulty in finding employment. The fact that not a single grain charter has been reported during the present week shows most conclusively the demoralized condition of our market. The many regular line vessels which have to be despatched on time are the most serious sufferers, and most of them have taken coal for the round voyage as offering better results

than grain if accepted at the extremely low figure offered by shippers. The position is still more aggravated by the evident fact that shippers have been and are still considerably long of freight room, therefore a marked improvement in rates does not appear likely for at least some weeks to come.

Cotton charterers show no disposition to take up tonnage until they are able to make definite bookings of cargo, which seems impracticable at present. Phosphate and deals are the only trades offering employment for prompt tonnage.

In reference to sail tonnage, the market continues featureless. Inquiry has been limited and not confined to any particular branch at nominally unchanged rates bid and asked.

Grain, Liverpool or Glasgow, 2 cents; London, 2½ cents.

THE CANADA'S CUP.

The international challenge cup had its origin in 1896 when the citizens of Toledo, O., donated it for competition between Canada and the United States on the great lakes.

The cup was lifted by the sloop Canada, of the Royal Canadian Yacht Club, which won three out of five races from the Vencedor, owned by Commodore E. C. Berriman, of Chicago. The Canada was handled by Aemillius Jarvis, present sailingmaster of the Invader. After this race the trophy became known as the Canada cup.

In 1899 the Chicago Yacht Club challenged for the cup, and won by defeating the defender, Beaver, with the Genesee. America held the cup two years, and last winter accepted a challenge which resulted in last week's races, terminating in favor of the Canadians.

PROPOSED PATROL BOAT FOR USE OF OHIO
FISH AND GAME COMMISSION IN
WATERS OF LAKE ERIE.

The Ohio Fish and Game Commission will receive bids at Auditor of State's office, Columbus, Ohio, 2 p. m., Tuesday, September 24th, for the construction of a patrol boat for use in the waters of Lake Erie. Plans and specifications may be seen at Auditor of State's office, Columbus, Ohio, or copies of same may be secured upon application from the Secretary of Ohio Fish and Game Commission, Athens, Ohio. The Commission reserves the right to reject any or all bids. Bids may be mailed to Ohio Fish and Game Commission, care Auditor of State's office, Columbus, Ohio. 34-35

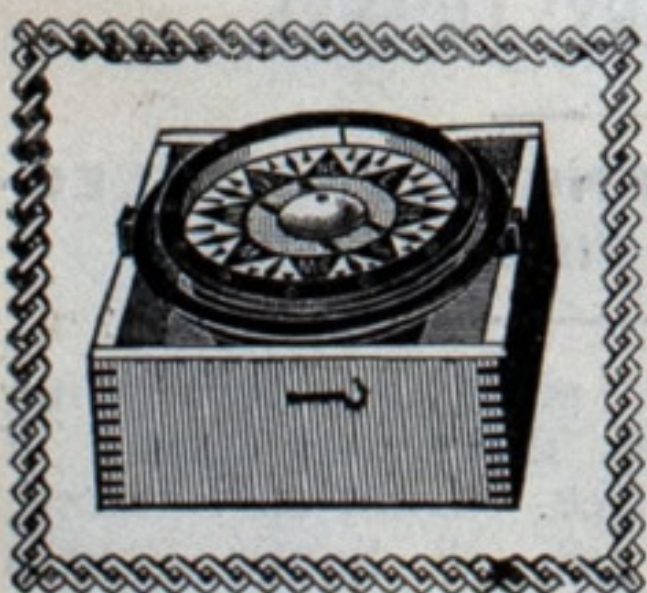


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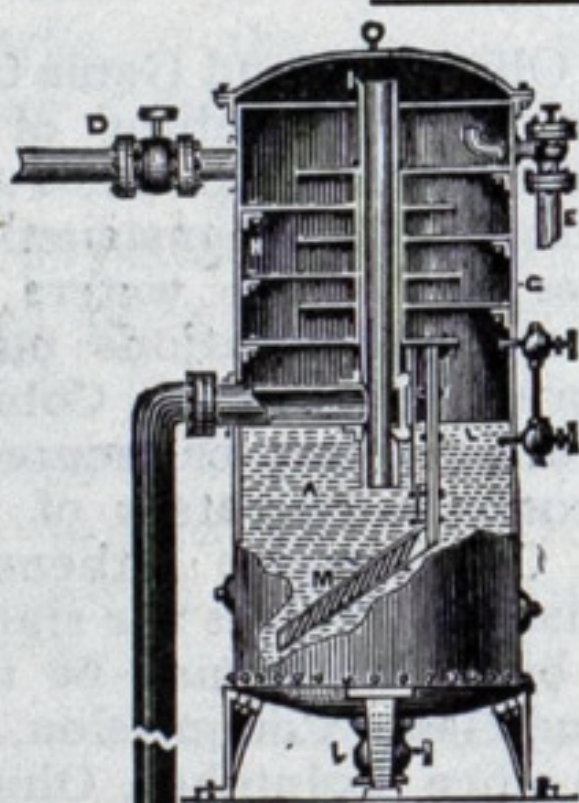
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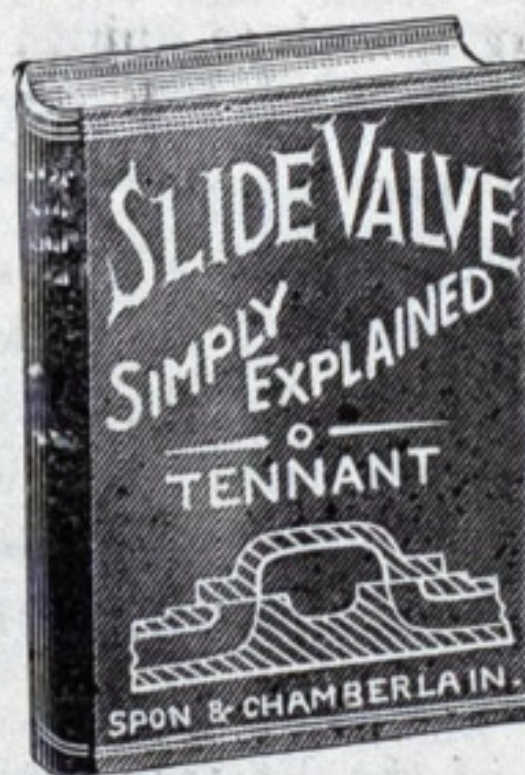
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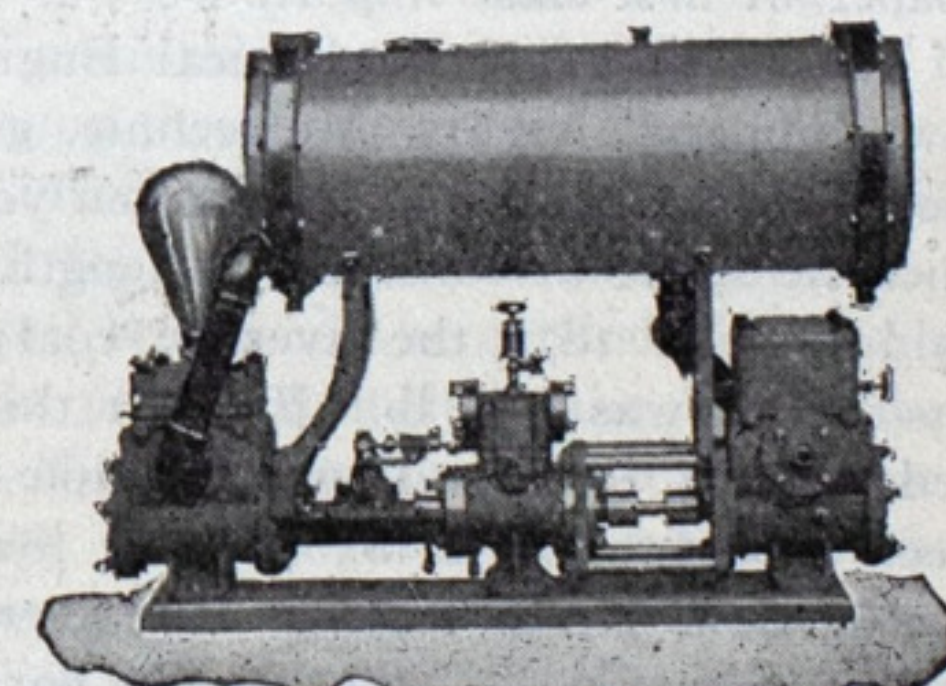


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FLOTSAM, JETSAM AND LAGAN.

A gun which is claimed to have belonged to Robinson Crusoe, was recently offered by auction in Philadelphia. It was a fine old flintlock.

Uneasy Passenger (on ocean steamship)—"Doesn't the vessel tip frightfully?" Dignified Steward: "The vessel, sir, is trying to set a good example to the passengers."—Ex.

His Wife's Precaution.—John, dear, are you going to shave?" "Yes." "Well, wait till I take the parrot out of the room. I don't want it to learn any more bad language."

A five-masted schooner, built of steel, is about to be constructed at the shipyard of Arthur Sewall & Co., in Bath, Maine. The vessel will be of 2,000 tons capacity, and will be the first of her kind built.

The roller boat had another successful trial on Friday last, making in all about a dozen revolutions. Several flaws have been found in the smaller parts of the machinery, which are now being adjusted, after which another trial will be given. Quite a large crowd were on board during the rolling experiment at Prescott, Ont.

The Polson Iron Works, of Toronto, are building a large dredge for the Dominion Government for use on the lower reaches of the St. Lawrence. The work on the hull, which is of steel, is so far advanced that the launching will take place this month. The dimensions of the dredge are: length, 160 ft.; breadth, 42 ft., and she will draw 12 ft. 6 in.

The British steamer Thyra has sailed from Portland, Ore., with the largest cargo of lumber ever shipped from the Pacific coast in one vessel. It amounted to 3,600,000 ft. The record was formerly held by the steamer Guernsey, which left Portland in November, 1899, with a cargo of 3,433,452 ft. of lumber. The Thyra was eight and one-half days loading her cargo.

At a public auction at the Morse Iron Works, New York City, Aug. 5, the army transport McPherson was sold for

\$18,700 to E. H. Parsons, of Baltimore, it was understood that he represented the Pennsylvania Railroad Co. The transport Terry was knocked down to Miles E. Barry, general manager of the Chicago and Muskegon Transportation Co. for \$19,600.

Rear Admiral Crowninshield, U. S. N., has directed the condemnation of the old wooden frigate Vermont, now at the Brooklyn Navy Yard. The Vermont is used as a receiving ship, but owing to repeated outbreaks of disease on board much complaint has come to the Navy Department. Efforts were made to eradicate the germs by disinfection, but with no success.

The licensed carrying capacity of the passenger steamers running out of Toronto is as follows: Chippewa, 2,000; Corona, 1,450; Kingston and Ontario, 1,000 each; Chicora, 875; Argyle, 800; Modjeska, 800; Garden City, 760; White Star, 700; Macassa, 615; Lakeside, 525; Canada, 490; Tyman 450; Richelieu, 410; Corsican, Algerian and Hamilton, 400 each; Persia, 150; and Ocean, 125.

A correspondent at Duluth, Minn., writes that more than 7,000 car loads of coal were shipped out from the head of the lakes—Duluth-Superior—during the month of July, and shipments are continuing very steadily. The cars of freight handled by the various roads centering there last month, exclusive of ore and company business, was in excess of 15,000 and showed an increase over July a year ago of about 1,250 car loads.

Captain Bauer, the present commander of the steamer Columbia, belonging to the Hamburg-American line, has completed his hundredth voyage as captain in the service of that company. The German Emperor has conferred on this gentleman the Order of the Crown (Fourth Class) and this distinction has been handed to him by the directors of the Hamburg-American Shipping Co. Will it ever be the proud privilege of an officer in the United States mercantile ma-

rine to be the subject of a like honor at the hands of his country's president. The foregoing is a view expressed by the Liverpool Journal of Commerce and we have self applied it by inserting United States in lieu of British and president instead of sovereign.

Coal is a heavy item in the expense of an ocean liner. And the faster the ship is driven the greater the consumption of coal. Coal to carry an ocean liner across in five and a half days costs \$9,000. A new turbine engine, passing the steam around the fins spirally, will give a speed of four days, it is claimed, with oil fuel costing \$4,000 and leaving much more room in the hull for freight, leaving for passengers the best part of the ship now occupied by the coal-using machinery. A trans-Atlantic company has given an order for such a ship, to be in service next year. That all the promises will be fulfilled may be doubted, but there is no doubt that an era of improved ship construction has arrived.—The Black Diamond, Chicago.

"The sea-nymphs have been showing the freshwater mermaid from Chicago a real good time.

They have escorted her through the Davy Jones' museum of marine architecture, given her a spin on Neptune's new automobile, introduced her to the sea serpent and showed her many other deep sea courtesies.

They were much interested in her account of the system on the lakes of building ocean-going ships on the knock-down plan and taking them through the canals in section to be set up after reaching the coast.

"How perfectly wonderful!" exclaimed one of the sea-nymphs. "It suggests to my mind how even a cargo-carrying Chicago mermaid might get through to the sea without going aground."

The Chicago mermaid instinctively drew her ultimate fin closer under her and joined her merry friends in gales of laughter."—Marine Journal, New York.

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For further particulars see
"Passenger Lines on the Lakes,"
page 18.

BETWEEN

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CLEVELAND AND CANADA.—Lake Erie Navigation Co., Walkerville, Ont.

CHICAGO, MILWAUKEE AND MICHIGAN PORTS.—Goodrich Transportation Co., Chicago.

CLEVELAND AND BUFFALO, N. Y.—Cleveland & Buffalo Transit Co., Buffalo.

TORONTO, MONTREAL AND QUEBEC.—Richelieu & Ontario Navigation Co., Montreal.

CHICAGO, ST. JOSEPH AND BENTON HARBOR.—Graham & Morton Line, Benton Harbor, Mich.

TOLEDO, WINDSOR AND SAULT STE. MARIE, ALSO "SOO" TO MICHIGAN.—Algoma Central Steamship Line, Sault Ste. Marie, Ont.

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Government Proposals.

U. S. ENGINEER OFFICE, Jones Building, Detroit, Mich., August 8, 1901. Sealed proposals for dredging under continuing contracts, for improving Hay Lake Channel, St. Mary's River, Mich., will be received here until 12 noon (Standard time), August 31, 1901, and then publicly opened. Information furnished on application. G. J. LYDECKER, Col., Engrs. 33-35

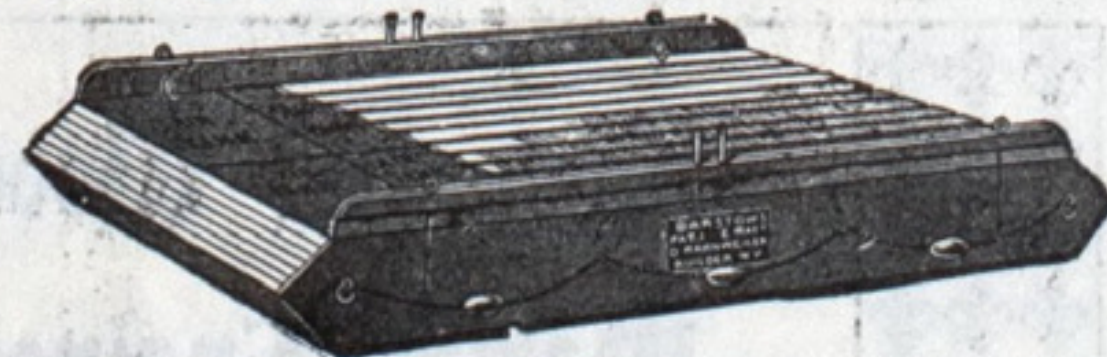
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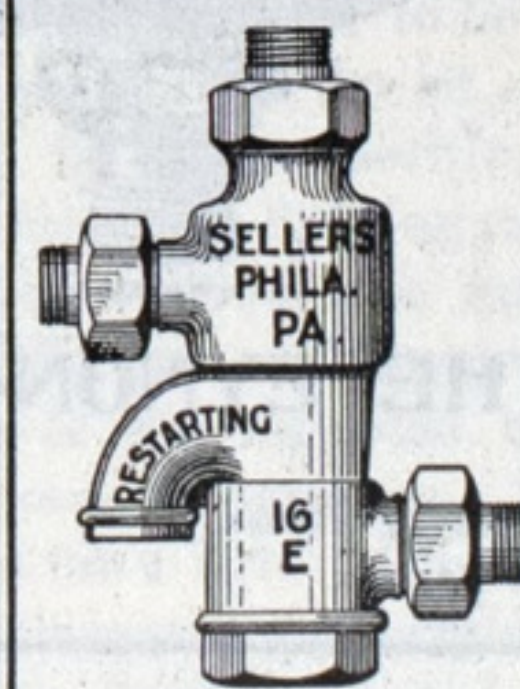
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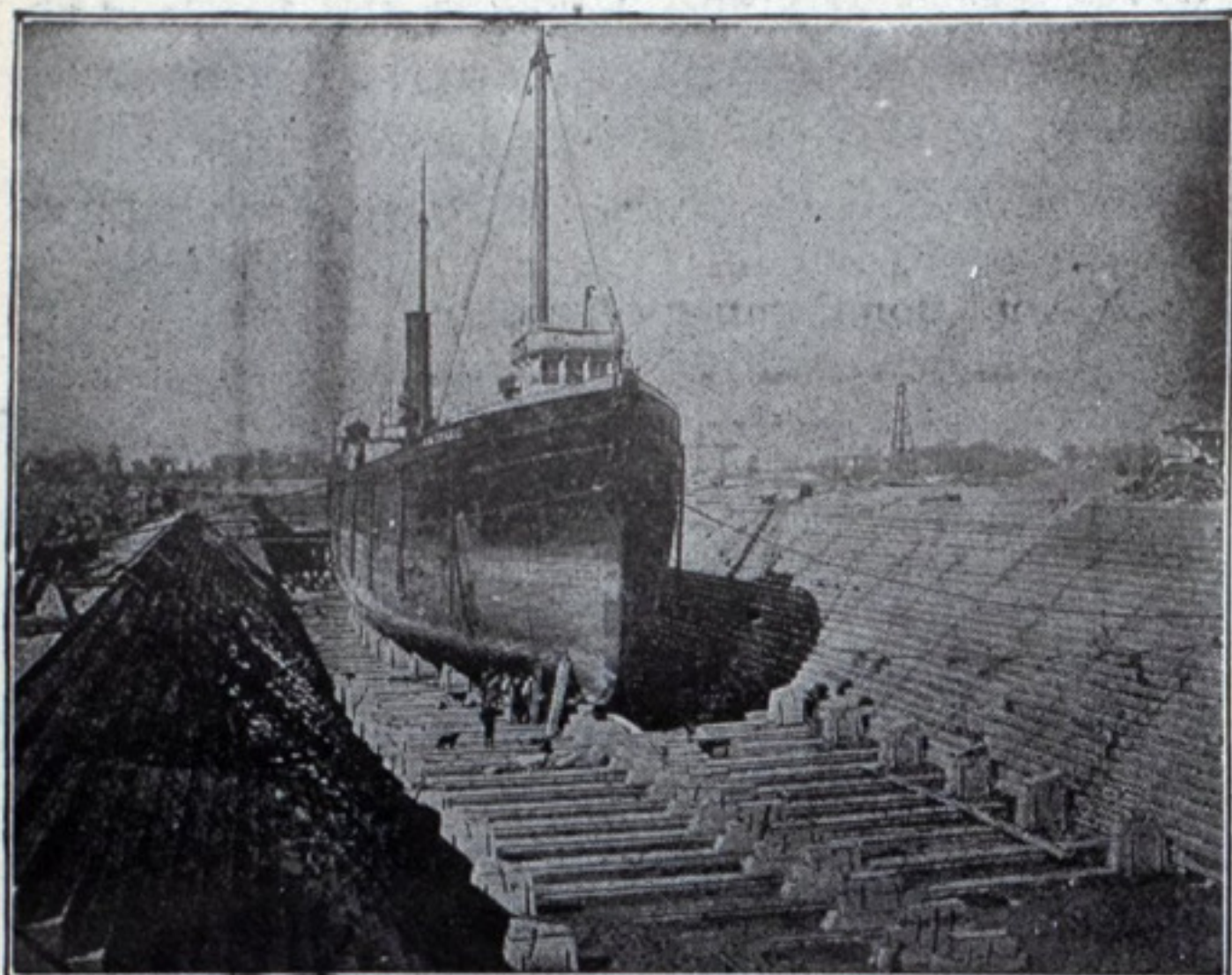
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A MANUAL OF MARINE ENGINEERING. A. E. Seaton. Designing, construction and working of marine machinery. \$6.00.

NAVAL ARCHITECTURE: A MANUAL ON LAYING OFF IRON AND STEEL VESSELS. Thos. H. Watson. Valuable for naval architects as well as beginners in ship yards. \$5.00.

RESISTANCE AND PROPULSION OF SHIPS. By William F. Durand, Principal of the School of Marine Construction, Cornell University. 431 pages, 116 figures. \$5.00.

PRACTICAL ADVICE FOR MARINE ENGINEERS. This is a valuable little book, with 64 illustrations. By Charles W. Roberts. \$1.00.

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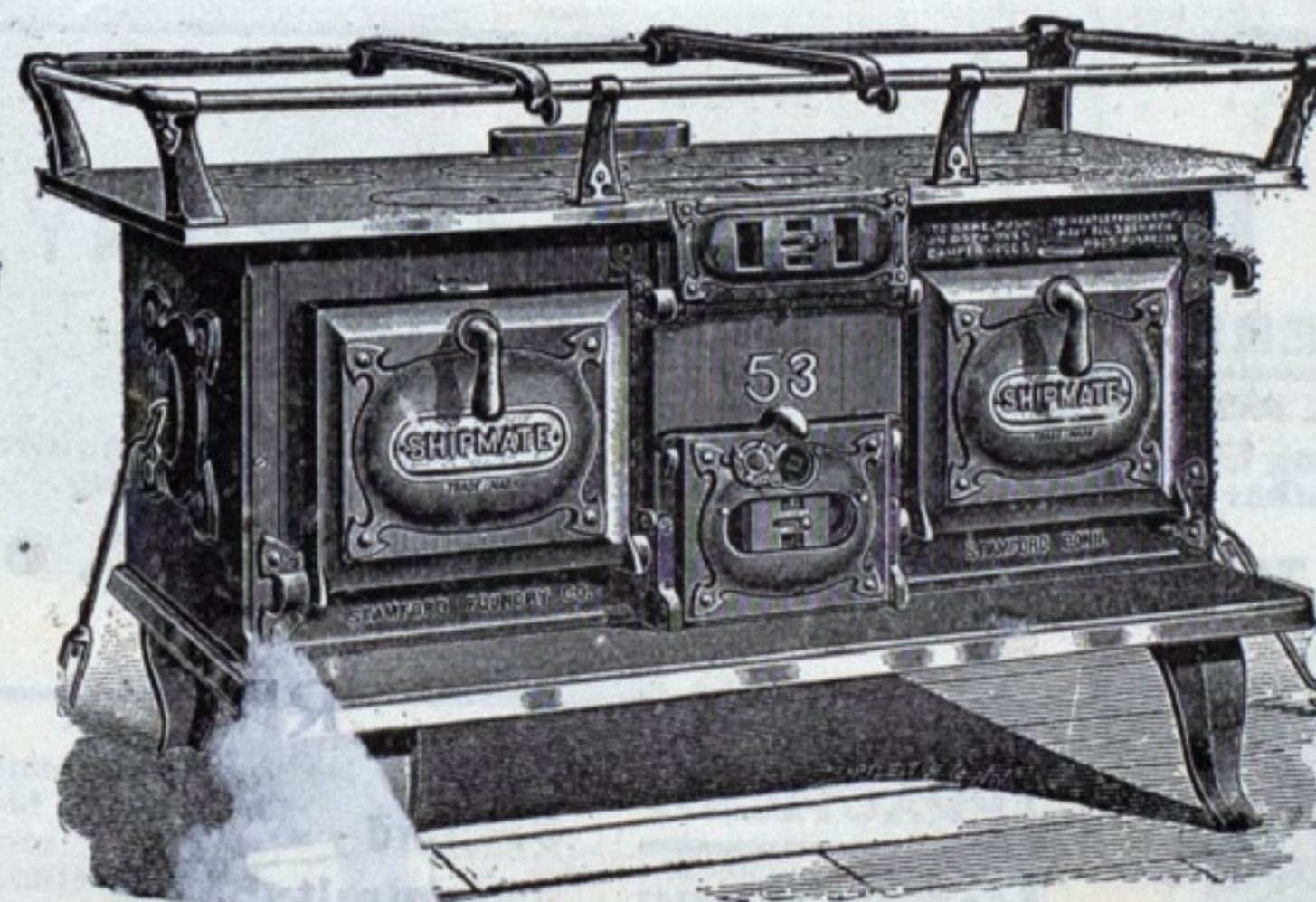
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